AMERICAN AGRICULTURIST

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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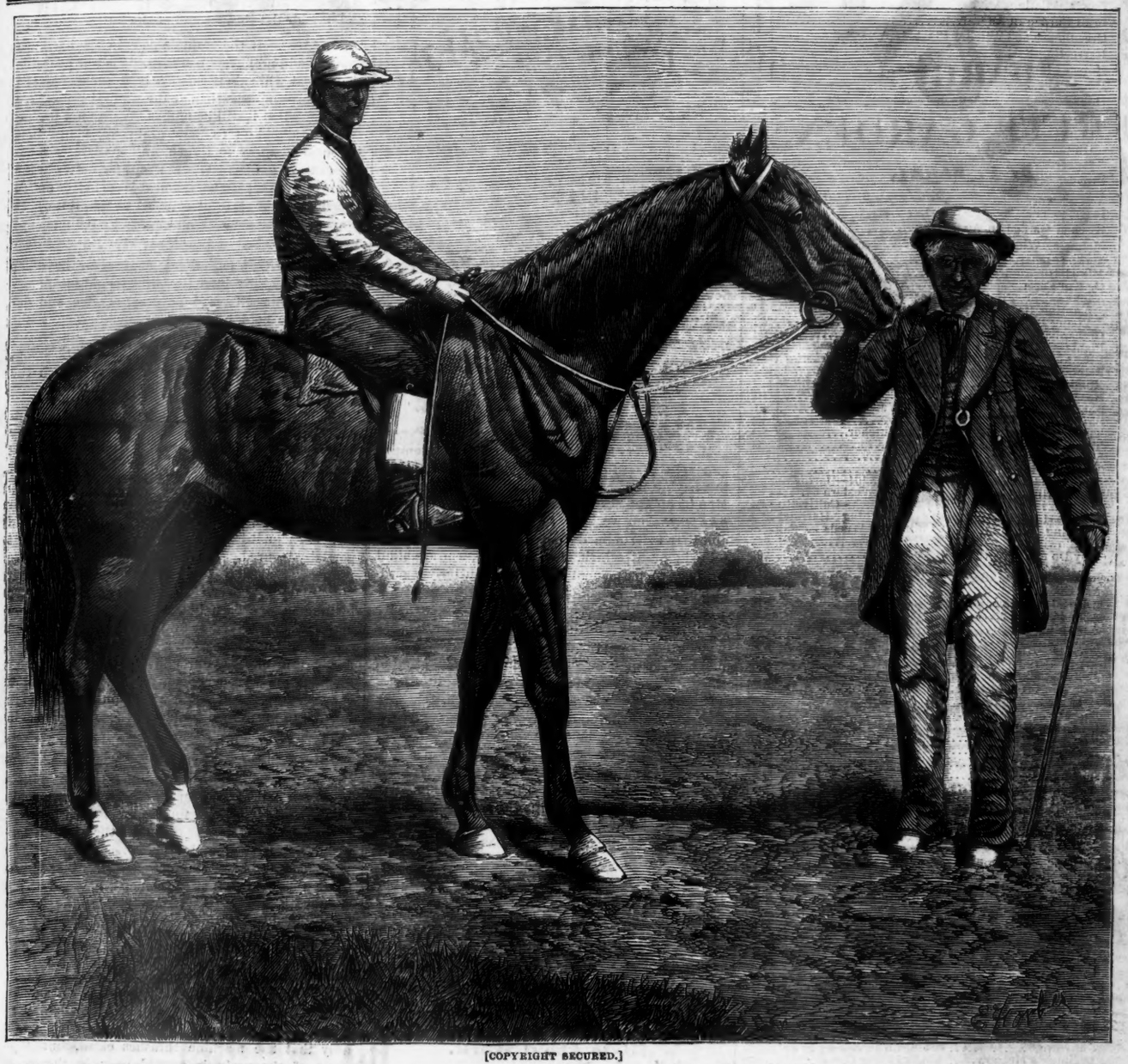

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THOROUGH-BRED HORSE LONGFELLOW.—DRAWN FROM A PHOTOGRAPH.—*Engraved for the American Agriculturist.*

Whatever we may think of races and racing, every one likes a fine horse, and has a curiosity to see and know something about the animal whose exploits have been heralded from one end of the country to the other. *Longfellow*, now five years old, was bred and raised by John Harper, of Midway, Ky., and is by *Leamington*, dam *Nantiorah*. *Leamington* is a celebrated imported racer, whose portrait we gave in June, 1870, and has a world-wide reputation to which his progeny are not likely to do discredit. As a three-year-old, *Longfellow* won several important races at the West. In his career as a four-year-old, last year, he won several races, but was beaten at Saratoga in August by *Helmbold*. His owner, determined that he should recover his lost prestige, entered him for the Monmouth Cup (Long Branch), which was run for on July 2d, against *Harry Bassett*. The race, 2½ miles, was easily won by *Longfellow* by a hundred yards, in 4:34. *Longfellow* is 16¼ hands high, of a full brown color, very strong quarters, and has, according to the opinion of his owner, the best set of legs ever put under a horse. He has a very neat and intelligent head, but his neck is defective on account of an accident which occurred to him when quite young. We understand that Mr. Harper has declined an offer of $80,000 for *Longfellow*, but he does not care to part with his pet for a less sum than $100,000.

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Calendar for August.

Day of Month.	Day of Week.	Boston, N. England, N. York State, Michigan, Wisconsin, Iowa, and Oregon. Sun rises.	Sun sets.	Mo'n rises.	N. Y. City, Ct., Philadelphia, New Jersey, Penn., Ohio, Indiana, and Illinois. Sun rises.	Sun sets.	Mo'n rises.	Washington, Maryland, Virginia, Kentucky, Missouri, and California. Sun rises.	Sun sets.	Mo'n rises.
		H. M	H. M	H. M.	H. M	H. M	H. M.	H. M	H. M	H. M.
1	T	4 52	7 20	2 4	4 56	7 16	2 10	5 0	7 12	2 16
2	W	4 53	7 19	2 55	4 57	7 15	3 2	5 1	7 11	3 8
3	S	4 54	7 18	3 49	4 58	7 14	3 55	5 1	7 10	4 1
4	S	4 55	7 16	sets	4 59	7 12	sets	5 2	7 9	sets
5	M	4 56	7 15	8 23	5 0	7 11	8 20	5 3	7 8	8 16
6	T	4 57	7 14	8 49	5 1	7 10	8 46	5 4	7 7	8 44
7	W	4 58	7 13	9 11	5 2	7 9	9 10	5 5	7 6	9 9
8	T	4 59	7 11	9 34	5 3	7 7	9 33	5 6	7 4	9 33
9	F	5 0	7 10	9 56	5 4	7 6	9 57	5 7	7 3	9 58
10	S	5 1	7 9	10 20	5 5	7 5	10 22	5 8	7 2	10 24
11	S	5 2	7 8	10 47	5 6	7 4	10 50	5 9	7 0	10 54
12	M	5 3	7 7	11 19	5 7	7 3	11 24	5 10	6 59	11 28
13	T	5 4	7 5	12 0	5 8	7 1	morn	5 11	6 58	morn
14	W	5 5	7 4	morn	5 9	7 0	0 5	5 12	6 57	0 11
15	T	5 6	7 2	0 52	5 10	6 58	0 58	5 13	6 55	1 5
16	F	5 7	7 0	1 56	5 11	6 56	2 2	5 14	6 53	2 9
17	S	5 8	6 59	3 10	5 12	6 55	3 16	5 15	6 52	3 21
18	S	5 9	6 57	rises	5 13	6 53	rises	5 16	6 50	rises
19	M	5 10	6 55	7 53	5 14	6 52	7 51	5 17	6 49	7 48
20	T	5 11	6 54	8 21	5 15	6 51	8 20	5 18	6 48	8 19
21	W	5 12	6 52	8 47	5 16	6 49	8 47	5 19	6 46	8 48
22	T	5 14	6 51	9 11	5 17	6 48	9 13	5 20	6 45	9 15
23	F	5 15	6 50	9 37	5 18	6 47	9 40	5 21	6 44	9 43
24	S	5 16	6 48	10 6	5 19	6 45	10 10	5 21	6 42	10 15
25	S	5 17	6 47	10 38	5 20	6 44	10 43	5 22	6 41	10 48
26	M	5 18	6 45	11 17	5 21	6 42	11 23	5 23	6 40	11 28
27	T	5 19	6 44	11 59	5 22	6 41	morn	5 24	6 38	morn
28	W	5 20	6 42	morn	5 23	6 39	0 5	5 25	6 37	0 11
29	T	5 21	6 40	0 49	5 24	6 38	0 55	5 26	6 36	1 1
30	F	5 22	6 39	1 44	5 25	6 36	1 50	5 27	6 34	1 56
31	S	5 23	6 37	2 42	5 26	6 35	2 47	5 28	6 33	2 53

PHASES OF THE MOON.

MOON.	D.	BOSTON. H. M.	N. YORK. H. M.	WASH'N. H. M.	CHA'STON H. M.	CHICAGO. H. M.
New Moon	4	5 1 m.	4 49 m.	4 37 m.	4 25 m.	3 55 m.
1st Quart..	12	1 8 m.	0 56 m.	0 44 m.	0 32 m.	0 2 m.
Full.....	18	4 9 ev.	3 57 ev.	3 45 ev.	3 33 ev.	3 3 ev.
3d Quart ..	25	3 51 ev.	3 39 ev.	3 27 ev.	3 15 ev.	2 45 ev.

AMERICAN AGRICULTURIST.

NEW YORK, AUGUST, 1872.

Many farmers have had much to try their temper and test their patience during the past month. Hoeing, haying, and harvest have been crowded together. Men have been scarce and have had things all their own way. And we know of nothing more disagreeable than to be obliged to submit to the dictation of a lot of ignorant, selfish, conceited men, who are blind to their own permanent interests, and utterly regardless of the interests of others. It is useless to reason with them. All that we can do is, the moment we are through the hurrying season, to discharge those who have behaved the worst. We do not complain so much of the high wages as of the short hours and of the general listlessness, indifference, unskillfulness, and indolence of a large class of farm men. We have all been complaining of this evil for some years. We have thought that it would cure itself. But instead of getting better, it is getting worse and worse. It is time that the subject was carefully considered and concerted action resorted to. We must be just and liberal with our men, but should insist on a faithful performance of contracts. No farmer should hire a man who has broken an engagement with a brother-farmer.

During the latter part of this month and the next there will be comparatively little to do on many farms, and day-men can be obtained at lower rates. If a man has been faithful, give him steady work and fair wages. But you owe it to yourself and to the good men, to dismiss every man who has not acted properly. This policy, generally carried out, would have a salutary effect.

Hints about Work.

Finish the Harvest.—The better plan is to finish each field as you go, but we can not always do just what we know to be best. In the hurry of harvest, and with fewer men than we need, it is sometimes necessary to "get the biggest of it," and trust to finding time to clear up afterwards. As soon as the main bulk of the crops is secured, a farmer is very apt to relax his exertions. This should be guarded against. There should be no let-up until everything is finished. Then take a rest and enjoy yourself.

Oats.—This is generally the last grain crop to harvest. Where the straw is used for fodder, it is well to cut the crop before the oats get fully ripe. Or where oats and straw are to be all cut up together and fed to horses, the crop may be cut while there is considerable "milk" in the grain. In this case it is necessary to be very careful in curing. On the whole, we are inclined to think that the better plan is to let the oats stand until they are nearly or quite ripe. The grain will be heavier, and less time is required for curing. Much, however, depends on circumstances. If we are likely to have settled hot weather, we should cut early, but if the weather is unsettled, we should prefer to let the oats stand until quite ripe. Oats are not unfrequently damaged by being drawn in before they are sufficiently cured, especially after they have been exposed to rain. It is important that the oats are perfectly dry inside and outside the sheaves and at the butts.

Thrashing.—If the grain is safe in the barn, we should be in no hurry to thrash. It is not probable that wheat will rule permanently lower during the next twelve months than at the present time. We do not say that it will be higher. We are not urging farmers to hold on to their grain, but simply not to be in a hurry to thrash, unless there is some object to be gained. Wheat keeps far better in the straw than in the granary, and it is far better not to thrash until the straw or grain is needed. But where grain has to be stacked, and where thatching is not practiced, it is better to thrash as early as possible.

Thrashing by Steam.—Steam-engines for thrashing are being rapidly introduced. The old ten-horse-power machines have done good service, and deserve to be held in grateful remembrance. But we rejoice to believe that their days are numbered. If there is a steam thrasher in the neighborhood, patronize it. This is the only way to banish the old horse-machines.

Look to your Insurance.—This is always good advice; but it is particularly so at this season. Many farmers have a good deal of property, in the form of wool, hay, and grain, exposed to fire, that is not covered by insurance, because they expect to keep it only a short time. If they can afford to be their "own insurers," all very well. But if a fire would cripple them, it is the part of wisdom to be at least partially insured. We fear that many farmers have property that they think is insured which their policies do not cover. Your wool or grain may be insured in one barn but not in another, and you may have overlooked or forgotten the fact. If you are going to thrash with a steam-engine, see if it does not invalidate your policy. There is little or no risk from a properly-constructed engine, but it is a very unpleasant thing when you think you are insured to burn up and find that there is a clause in the policy that forfeits your claim.

Thrashing with a Sweep-Power.—The general practice in our neighborhood when thrashing with a hired ten-horse-power machine is to pay five cents per bushel for wheat, four cents for barley, and three cents for oats, the owner of the machine furnishing four men and four horses. One of the "thrashers" drives, and he is naturally inclined to spare his own teams at the expense of ours. This should be looked to. If possible, let the horses have a level track, for in going up-hill a good team is inclined to pull harder than on a level. Give the outside horse a longer half of the evener. With quiet, thoughtful, and experienced thrashers everything will go smooth, and the horses will not be injured, but new hands get excited, and drive too hard. What is wanted is steady work. See not only that the machine thrashes clean, but that none of the grain is carried over in the chaff.

Making the Straw-Stack.—It is rare to see a really good straw-stack. If the object is to rot down the straw for manure, the stacks as frequently made can not be improved. But where the object is to save the straw for fodder and for litter, much more pains than is generally the case should be taken in making the stack. We can not go into details, but the main points are to keep the middle full and well trodden down, so that the sides shall settle more than the center. Keep the chaff and short

straw well scattered about in the middle of the stack, and especially avoid letting it lie in a mass where deposited by the straw-carrier. Aim to have good straw to top off with. In a few days after the stack is completed, place a long ladder on the roof, and rake the straw down smooth so that the water will run off rapidly.

Thatching.—We do not advocate stacking hay; but we do most earnestly recommend any of our readers who have hay-stacks to thatch them as soon as they can get the straw. It is a mistake to suppose that it is necessary to have long, straight straw to thatch with. Short straw will answer the purpose. The first point is to *wet it* thoroughly and lay it out straight on the roof, commencing at the eaves, and lapping the courses as you would with shingles. Rake smooth, and fasten carefully with pegs and hay-rope or twine.

Grain, when thrashed early, is very liable to heat. Turn it frequently, or run it through a fanning-mill. If it is very damp, mix dry cut-straw or chaff with it, and turn it every two or three days.

Weeds.—The best thing to do with the weed-seeds cleaned out of the grain is to burn them. If the screenings contain weeds, as they almost always do, they should be thoroughly boiled before feeding. If possible, allow no weeds to go to seed in the growing crops or in the fence-corners and waste places. Mow the weeds in the pastures. If the wheat or barley stubbles are weedy, it is a capital plan to go over them with a mowing machine.

Beans.—Our own plan is to pull five rows at a time, and place the handfuls, with the roots up, on the middle row. If the weather is favorable, this is the easiest and quickest way of curing. They should be lifted or turned as often as necessary to prevent the leaves on the ground from molding. If the weather is unsettled, it is the safest plan to cure them in large heaps made so as to shed the rain. If carefully made, beans may stand in such heaps for weeks without injury.

Wheat on Stubble Land.—A large and increasing breadth of winter-wheat is now sown after barley, oats, peas, or beans. Whether it is best to plow such land once or twice depends on circumstances. As a rule, we think it best on rather heavy soil to plow twice—once immediately after the crop is gathered, and again just previous to sowing. On light sandy land we should harrow the stubble, or cultivate it to start the weeds and fallen grain, and plow as soon as they had germinated. Then harrow, and keep the surface clean and mellow by the use of the cultivator until it was time to sow.

Root Crops, such as mangel-wurzel, ruta-bagas, carrots, parsnips, etc., should be kept scrupulously clean. Use the hoe and cultivator freely. By using 200 lbs. of good superphosphate per acre, a fair crop of Strap-leaf turnips may be grown on good clean land sown as late as the first or even the second week in August. Sow on fresh-plowed land.

Draining Swamps and Getting out Muck are always in order this month. Grind the spades as sharp as possible, and go to work with a will. It is nothing like as difficult a job as most people imagine. On flat, level land the true way to dig a ditch is to commence at the lowest point, and dig just deep enough to have the water follow you up into the higher land. You will then lose no fall. Such muck as you intend to use for manure or compost should be thrown on one side of the ditch only, and by taking a little pains it may be thrown in good-sized heaps with little extra labor.

Cows.—During the hot weather in August the flow of milk is apt to fall off considerably, and it is difficult afterwards to bring it up again. Bran and spout-feed are unusually cheap, and can be used to great advantage. Our own plan is to keep a large trough of water in the yard, and mix as much mill-feed with the water every day as the cows will drink. It pays in the manure, in the increase of milk, and in the improved condition of the cows. If you have any green corn, now is the time to feed it liberally. If very succulent, let it wilt a little, and if very large and coarse, and consequently rather deficient in nutriment, let the cows have enough corn-meal to make the fodder as nutritious as the best pasture grass.

Sheep.—Lambs should now be weaned. Put the ewes in a poor pasture, and let the lambs have the run of some second-growth clover or other rich grass. If the weather is wet and the grass succulent, give some dry food, such as clover hay, or, better still, bran. Remove the rams from the flock.

Swine.—Let the breeding sows and store pigs have the run of the stubbles. Pigs intended to be fatted this fall should now be fed liberally, but should be allowed to run in the pasture.

Water.—See that all animals have a plenty.

Work in the Horticultural Departments.

During August the gardener will have a little time for rest if he has succeeded in subduing the weeds, and has not allowed his work to get ahead of him. A day or two of fishing or picnicking will afford a pleasing variation from the regular routine of daily labor. There are many odd jobs that can be done before harvesting commences, which will save a great deal of time next season. Around most gardens, weeds are allowed to find a harbor along the fences and walls, and if permitted to go to seed it will be hard work to kill them next year. Preparations for draining may be made.

Orchard and Nursery.

The present month will be a trying one to the trees planted last spring unless a good mulch was applied after they were set out. It will not be too late to save many if a mulch is put around the trees now. If late web-worms infest the trees, the branches must be cut off and burned, or they will soon destroy the foliage of the whole tree.

Marketing.—Care should be taken in sending fruit to market to assort and pack it in such a way that the highest prices can be obtained. The fruit should be packed so firmly in the box or crate that there will be no danger of bruising in transit.

Insects.—There is often much fruit which falls prematurely, which on examination will be found to contain insects, and should be given to the pigs as fast as they fall, or, if preferred, the pigs may be allowed to run in the orchard.

Budding may be done whenever the bark is loose enough to lift readily, and well-ripened buds can be obtained. The maturity of buds may be hastened by pinching the end of the shoot on which they are borne. When sticks of buds are cut, remove the leaf, leaving the leaf-stalk attached to the twig. The twigs must be kept moist until used.

Weeds.—If the nursery rows have been allowed to become weedy, they should be thoroughly cultivated, and afterwards hand-weeded. A heavy mulch between the rows will save many seedlings which would otherwise die from the extreme dry weather which often occurs at this season.

Kitchen Garden.

Nothing can furnish more real enjoyment than a good garden well stocked with a variety of vegetables, and a family can obtain their principal supply of food from it.

Asparagus.—There is danger of neglecting this during the rush of work, and allowing it to become filled with weeds, to the injury of the next year's crop. It ought to be hoed frequently to keep the soil light, and manure applied at any time now, will be of great benefit to it.

Beans.—It is rather late to plant beans unless wanted for late snaps; a fair crop may be secured for salting or pickling.

Cabbages and Cauliflowers.—Hoe frequently, especially early in the morning when the dew is on. Liquid manure occasionally will be of benefit. Lime or salt may be used for destroying slugs.

Carrots.—Cultivate between the rows until the tops are so large as to cover the ground, and when very large weeds make their appearance pull them out by hand. Thin out the late sowings.

Celery.—Continue to earth up, and keep the ground well cultivated. Plants may still be put out, and will make a late crop.

Corn.—Reserve the earliest and best formed ears for seed. Cut off all smutty ears and burn them.

Cucumbers.—Pick every day for pickles; those not more than two or three inches in length make the best pickles. Those that ripen may be made into cucumber salad for winter use.

Egg-Plants.—The present warm weather will give these a start, and a little liquid manure will benefit them. Hay around the plants will keep the fruit from touching the ground and rotting.

Melons.—Cultivate until the vines cover the ground, and pinch back the ends of the vines where they are too long.

Onions.—As soon as the tops fall down they are ready for harvesting. Pull and allow them to dry thoroughly before storing; when stored, spread thinly so that they will not heat. Store onion sets in the same way.

Radishes.—Sow Chinese Rose-colored Winter.

Spinach.—Sow now for fall use; the winter crop is put in later.

Sweet-Potatoes should be making a rapid growth now, and the ridges must be kept clear of weeds. Move the vines often to prevent taking root.

Tomatoes.—Tie up to some sort of trellis, or place brush or hay around the plants to keep the fruit off from the ground. Destroy the green worm wherever found.

Turnips.—Ground from which early peas, potatoes, etc., have been taken, may be set with transplanted ruta-bagas or sown with turnips.

Fruit Garden.

The principal work in this department is the harvesting of the fruit, which promises to be very abundant. Surplus fruit should be preserved in cans or bottles, or dried.

Blackberries.—Three or four canes only should be allowed to grow, and these must be cut off when they reach a hight of 4 or 5 feet, and the laterals pinched back when they are 18 inches long. Fruit for home use ought to be thoroughly ripe before picking, while that for market must be picked before it is fully ripe.

Dwarf Trees.—Pick off all deformed fruit, and do not allow the trees to overbear.

Grapes.—Use sulphur if mildew makes its appearance. Keep the vines tied to trellises or stakes.

Raspberries.—After the fruit has been harvested, cut away the old canes, and dig in a good dressing of manure between the rows.

Strawberries.—Now is a good time to plant new beds, and to renovate the old ones. Beds set out now, will produce a moderate crop next season. Plenty of stable manure is the basis of good crops.

Flower-Garden and Lawn.

The fine growing weather of July has pushed forward the growth of plants very rapidly, but the weeds have made correspondingly rapid march, and if the hoe and rake have not been in constant use, a great deal of weeding will be necessary to make the flower-garden look respectable.

Box.—This beautiful edging must be clipped, to keep it in proper shape, and the present month is the time to do it.

Climbers require to be kept neatly tied up to show off to the best advantage. A few small iron brackets screwed to the posts of the piazza or side of the house, and galvanized iron-wire stretched between the brackets, will make very serviceable supports, as they allow a free circulation of air between the house and vines.

Grass.—Edgings and borders need a good deal of attention in order to look well, and if cared for often, will require but little time. The lawn needs mowing over at least every week or ten days, in order to make it look well.

Dahlias and Gladioluses need stakes, to keep them

from being blown down during high winds or rains. Most florists have for sale stakes of different sizes and lengths, which are very serviceable, and last well, if properly taken care of.

Hedges.—Give the summer clipping this month.

Potted Plants, which have been placed in different parts of the grounds for summer decoration, need to be watered often, as the soil dries very rapidly when exposed to the wind.

Perennials.—A suitable frame or bed must be prepared, where seeds of perennials and biennials can be sown as soon as they ripen. Keep the beds or boxes well watered and shaded during the dry, hot weather.

Chrysanthemums.—Bring them into good shape by pinching, and remove any imperfect flowers which show themselves.

Seeds.—Gather as soon as they commence to ripen, and after they are thoroughly dry, clean and put away in a dry place, secure from mice.

Greenhouse and Window Plants.

Hanging baskets and window-boxes must have plenty of water and be shaded during the middle of the day. The greenhouse will need a thorough renovation, to clear it of all insects, and to make it ready for the reception of the plants in autumn.

All glass should be set before cold weather sets in, and the heating apparatus put in good order. Put in a good stock of potting soil and sand for winter use, and provide plenty of pots and boxes for large plants.

Commercial Matters—Market Prices.

Gold receded to 113 @ 113¼, closing July 13th at 114⅛, against 113⅞ on the 13th of June.....There has been a less satisfactory trade reported in Breadstuffs, with prices generally quoted much lower, in most instances, on increased offerings of stock. The home demand has been on a restricted scale, while the export inquiry has been mainly for Spring Wheat and mixed Western Corn. Toward the close, the market exhibited more steadiness, particularly for Flour, Wheat, Corn, and Oats, which were less abundant, under lighter arrivals, though the scarcity of ocean freight room and the sharp advance in rates were against free export purchases.....Provisions have been in less confident demand. Hog products closed more firmly; while Butter and Cheese showed weakness as to values; and Beef products were depressed..... Eggs have been less sought after, closing in favor of buyers.....Hay has declined in price, and closed dull. .....Hops and Tobacco have attracted more attention, at steadier rates.....Wool was dull and lower early in the month under review. Toward the close there was more inquiry noted for desirable lots, which, however, have been offered with reserve and at prices generally above the views of buyers, thus checking operations, particularly in Domestic Fleece and Pulled. Comparatively little of the New Clip is being forwarded to market, as farmers are not willing to sell at less than the extreme asking figures, and do not seem eager to realize on their holdings.....Cotton has declined materially, closing tamely and heavily.

The following condensed, comprehensive tables, carefully prepared specially for the *American Agriculturist*, show at a glance the transactions for the month ending July 13, 1872, and for the corresponding month last year.

1. TRANSACTIONS AT THE NEW YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 d's *this* m'th.	269,000	1,367,000	6,968,000	69,000	141,000	1,646,000
26 d's *last* m'th.	295,000	1,119,000	5,172,000	184,500	328,000	1,397,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 d's *this* m'th.	186,000	1,928,000	5,871,000	186,000	54,000	2,066,000
26 d's *last* m'th.	194,000	1,401,000	5,119,000	163,500	155,000	1,413,000

2. *Comparison with same period at this time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 days 1872.	269,000	1,367,000	6,968,000	69,000	141,000	1,646,000
27 days 1871.	380,000	2,911,000	3,415,000	51,000	321,000	815,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 d's 1872.	186,000	1,928,000	5,871,000	186,000	54,000	2,066,000
27 d's 1871.	345,000	3,436,000	2,225,000	59,000	6,800	1,371,000

3. *Exports from New York, Jan. 1 to July 12.*

	Flour.	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
1872.	448,080	4,202,506	11,967,765	366,829	22,656	17,215
1871.	963,881	8,193,157	4,824,572	43,018	83,796	14,889
1870.	880,626	7,964,408	164,468	65,734	——	9,788
1869.	605,950	6,260,263	1,481,849	68,536	——	42,257
1868.	481,663	2,956,522	4,044,602	153,093	——	39,368

4. *Receipts at head of tide-water at Albany each season to July 7th:*

	Flour. bbls.	*Wheat.* bush.	*Corn.* bush.	*Rye.* bush.	*Barley.* bush.	*Oats.* bush.
1872.	29,200	1,946,600	8,473,100	204,300	401,500	1,696,300
1871.	90,500	4,942,000	5,109,900	57,900	40,100	1,064,200
1870.	105,700	5,071,000	509,000	260,600	82,400	1,020,700

5. *Stock of grain in store at New York.*

1872.	*Wheat,* bush.	*Corn,* bush.	*Rye,* bush.	*Barley,* bush.	*Oats,* bush.	*Malt,* bush.
July 8.	368,405	449,354	236,385	53,730	1,135,071	163,392
June 11.	481,241	156,673	284,017	61,844	727,120	7,369
May 8.	1,015,553	197,203	271,565	18,032	1,115,022	80,447
April 8.	1,881,946	424,856	355,430	190,691	78,387	——
1871.						
May 9.	283,700	289,245	160,734	50,725	376,226	171,933
April 10.	811,871	180,947	150,964	164,398	709,363	171,897
March 18.	1,523,785	204,388	150,514	329,349	1,133,897	218,231

CURRENT WHOLESALE PRICES.

	June 14.	July 13.
PRICE OF GOLD	113⅞	114⅛
FLOUR—Super to Extra State	$5 60 @ 8 00	$5 15 @ 7 25
Super to Extra Southern	6 60 @13 50	5 60 @13 00
Extra Western	6 75 @13 50	5 90 @11 50
Extra Genesee	8 10 @10 75	7 30 @10 00
Superfine Western	5 60 @ 6 25	5 15 @ 5 75
RYE FLOUR	4 10 @ 5 50	3 90 @ 5 00
CORN-MEAL	3 45 @ 3 95	3 25 @ 3 80
WHEAT—All kinds of White	1 95 @ 2 15	1 60 @ 1 75½
All kinds of Red and Amber	1 70 @ 2 05	1 48 @ 1 65
CORN—Yellow	70 @ 72¼	62½@ 63½
Mixed	63 @ 70	56 @ 62½
OATS—Western	48 @ 55	43 @ 46½
State	51 @ 55	45 @ 47½
RYE	90 @ 95	75 @ 82½
BARLEY	60 @ 1 12½	Nominal.
HAY—Bale ₱ 100 lbs	1 30 @ 1 70	1 10 @ 1 65
STRAW, ₱ 100 lbs	60 @ 1 20	60 @ 1 15
COTTON—Middlings, ₱ lb	26 @ 26¼	24¼@ 24⅜
HOPS—Crop of 1871, ₱ lb	25 @ 75	25 @ 75
FEATHERS—Live Geese, ₱ lb	60 @ 75	50 @ 70
SEED—Clover, ₱ lb	9¼@ 10¾	9¼@ 10¾
Timothy, ₱ bushel	3 12½@ 3 50	3 12½@ 3 50
Flax, ₱ bushel	2 20 @ 2 35	2 20 @ 2 35
SUGAR—Refi'g & Grocery ₱ lb	7¾@ 10½	8 @ 10½
MOLASSES, Cuba, ₱ gal	30 @ 38	25 @ 38
COFFEE—Rio (Gold)	16 @ 19¼	16¼@ 19½
TOBACCO, Kentucky, &c., ₱ lb	8 @ 16	8 @ 16
Seed Leaf, ₱ lb	7 @ 48	7 @ 48
WOOL—Domestic Fleece, ₱ lb	65 @ 82	60 @ 80
Domestic, pulled, ₱ lb	60 @ 80	55 @ 75
California, unwashed	30 @ 55	28 @ 52
TALLOW, ₱ lb	9¼@ 9¾	9 @ 9¾
OIL-CAKE—₱ ton	40 00 @42 00	41 00 @42 00
PORK—Mess, ₱ barrel	13 50 @— —	13 00 @13 87½
Prime, ₱ barrel	10 75 @— —	10 75 @— —
BEEF—Plain mess	7 50 @10 00	7 50 @10 00
LARD, in tres. & barrels, ₱ lb	8¾@ 9¾	8¾@ 9¾
BUTTER—State, ₱ lb	16 @ 26	14 @ 30
Western, ₱ lb	10 @ 21	10 @ 20
CHEESE	4 @ 14½	8 @ 11¾
BEANS—₱ bushel	3 10 @ 3 75	2 20 @ 3 75
PEAS—Canada, free, ₱ bu	1 15 @ 1 20	1 10 @ 1 15
EGGS—Fresh, ₱ dozen	18 @ 17½	14 @ 22
POULTRY—Fowls	17 @ 22	17 @ 20
Turkeys—₱ lb	— @ —	15 @ 20
Geese, ₱ pair	1 25 @ 3 00	1 50 @ 2 50
Ducks, ₱ pair	75 @ 1 25	65 @ 1 25
Spring Chickens—₱ pair	— @ —	50 @ 1 25
TURNIPS—₱ 100 bunches	3 00 @ 3 50	2 50 @ 6 00
CABBAGES—₱ 100	— @ —	3 00 @ 6 00
ONIONS—₱ 100 bunches	— @ —	3 00 @ 4 50
BROOM-CORN—₱ lb	3 @ 9	3 @ 9
APPLES—new, ₱ barrel	@ —	2 00 @ 4 00
NEW POTATOES—₱ bbl	2 50 @ 9 00	1 50 @ 3 00
LETTUCE—₱ 100	1 50 @ 2 50	— @ —
TOMATOES—₱ crate	— @ —	87 @ 1 25
BEETS—₱ 100	— @ —	3 50 @ 5 00
GREEN PEAS—₱ bag	— @ —	75 @ 85
STRING BEANS—₱ bag	— @ —	75 @ 1 00
GREEN CORN—₱ 100	— @ —	75 @ 1 50
CHERRIES—₱ lb	6 @ 16	5 @ 15
GOOSEBERRIES, ₱ bushel	2 00 @ 2 50	2 00 @ 3 00
CUCUMBERS—₱ 100	1 00 @ 1 50	75 @ 1 00
CURRANTS—₱ lb	— @ —	6 @ 10
WHORTLEBERRIES—₱ bush	— @ —	4 50 @ 7 00
BLACKBERRIES—₱ quart	— @ —	5 @ 20
WATERMELONS ₱ 100	— @ —	30 00 @75 00

New York Live-Stock Markets.

WEEK ENDING	*Beeves.*	*Cows.*	*Calves.*	*Sheep.*	*Swine.*	*Tot'l.*
June 17th	8,050	72	3,437	21,509	37,962	71,030
June 24th	9,288	132	3,654	21,945	36,788	71,807
July 1st	7,003	139	2,845	21,172	30,712	62,471
July 8th	8,469	64	2,517	19,691	32,349	63,090
Total in 4 Weeks	33,410	407	12,453	84,317	137,811	268,398
do. *for prev. 4 Weeks*	33,222	362	16,528	70,305	150,554	270,971

	Beeves.	*Cows.*	*Calves.*	*Sheep.*	*Swine.*
Average per Week	8,352	102	3,113	21,079	34,453
do. do. *last Month*	8,305	90	4,132	17,576	37,638
do. do. *prev's Month*	8,070	85	3,987	13,211	34,094
Average per Week, 1871	7,187	88	2,901	25,132	25,177

Beef Cattle.—Several causes combined to make a dull cattle market the past month. One was the generally poor quality of the stock after the corn-fed cattle had nearly run out, and before the grass steers had become fat. They are now improving in condition each week. Besides this we have had too many cattle for the extreme heat of the past few weeks. Much of the meat would spoil before it could be used, while those employed in getting out and distributing ice took advantage of the situation, and struck for higher wages. Then, again, so many men of the various trades were unemployed and out on strikes, that the laboring classes had not the money with which to buy beef. Just at the close there is a better tone to the market, the prospect being favorable for a lighter run of stock. Still the decline for the month has been more than ½c. ₱ lb.

Below we give the range of prices, average price, and figures at which large lots were sold:

June 17, ranged 10¾@14 c. Large sales 11⅛@13½c. Av. 12¾
June 24th, do. 8 @13½c. do. do. 10 @12½c. do. 12
July 1st, do. 8 @13½c. do. do. 10 @12 c. do. 11⅞
July 8th, do. 7½@13 c. do. do. 9 @12 c. do. 11½

Milch Cows.—With a larger average, the cow trade has been variable during the past month. The market has been largely overstocked with milk, so that farmers were more inclined to reduce than add to their stock of cows. Just now there is more inquiry, and all the good cows are selling. Prices are rather higher all around. Common cows sell at $35 @ $50, fair at $60 @ $65, and good to prime at $70 @ $80.....**Calves.**—These decrease in numbers as summer wears away, but their use is also less. The quality is poorer. Some of the best milk veals are as good as those sent in last month, but we now get a good many grass and buttermilk calves. Farmers were in market for such last year, but they do not come now. Such animals sell low. Quotations of grass calves are 3c. @ 5c. ₱ lb., live weight; common to fair milk veals 7c. @ 8½c.; good to choice, 9c. @ 9½c.....**Sheep and Lambs.**—As lambs are ready for sale, and some of the ewes can be turned off, we are getting quite an increase of stock. The demand has also improved during the hot weather, mutton being decidedly a favorite meat during the summer. Sheep declined at first, and have since improved, though they are scarcely as high as they were one month ago. Lambs have held their own, notwithstanding it is the season when they are expected to decline. Quotations: Ordinary sheep, 5c. @ 5½c. ₱ lb., live weight; fair to good, 6c. @ 6¼c.; prime to extra, 6½c. @ 6¾c.; few very choice, 7c. Lambs, 8½c. @ 10c. for poor; 11c. @ 12½c. for medium to good, and 13c. for choice Jerseys. .....**Swine.**—With a falling off in arrivals there is little change in the market. Heavy dressed declined to 5¼c. during a scarcity of ice, but are now improved. There is seldom a sale alive, nearly all the hogs being consigned to slaughterers. Live are worth 4¼c. @ 4½c.; city-dressed Western, 5½c. @ 6c.

containing a great variety of Items, including many good Hints and Suggestions which we throw into smaller type and condensed form, for want of space elsewhere.

Remitting Money: — Checks on New York City Banks or Bankers are best for large sums; make payable to the order of **Orange Judd & Co.....Post-Office Money Orders,** for $50 or less, are cheap and safe also. When these are not obtainable, **register** letters, affixing stamps for postage and registry; put in the money and seal the letter in the presence of the postmaster, and *take his receipt for it.* Money sent in the above three methods is safe against loss.

Postage: On *American Agriculturist*, 3 cents a quarter, in advance; on *Hearth and Home*, 5 cents per quarter. Double rates if not paid in advance at the office where the papers are received. For subscribers in British America, the postage must be sent to this office for prepayment here.

Bound Copies of Volume Thirty are now ready. Price, $2, at our office; or $2.50 each, if sent by mail. Any of the last fifteen volumes (16 to 30) will also be forwarded at same price. Sets of numbers sent to our office will be neatly bound in our regular style, at 75 cents per vol. (50 cents extra, if returned by mail.) Missing numbers supplied at 12 cents each.

Clubs can at any time be increased by remitting for each addition the price paid by the original members; or a small club may be increased to a larger one; thus: a person having sent 10 subscribers and $12, may afterward send 10 more subscribers with only $8; making a club of 20 at $1 each; and so of the other club rates.

The Union Pacific Railroad Co.—The Land Department at Omaha, Neb., reports: "The sales of the Land Department of the Union Pacific Railroad Co., for the month of June, 1872, were 23,900$^{41}/_{100}$ acres, amounting to $103,610.62, at an average of $4.30 per acre. The total sales from July 28th, 1869, to the present date are 571,169$^{76}/_{100}$ acres, amounting to $2,399,410.55, at an average of $4.20 per acre. Sales in April, 1872, were 12,466$^{37}/_{100}$ acres, for $51,000.05. Sales in May, 1872, were 16,835$^{44}/_{100}$ acres, for $67,746."

The Georgia State College solicits for its Industrial Museum models of machines of any character; models of bridges; plans and photographs of buildings, bridges, etc.; minerals, specimens of ores; specimens of woods; products of agriculture; products of manufactures, exhibiting as far as possible the various stages of preparation; and generally whatever may illustrate the industrial arts. Donations will be acknowledged by publication in the Catalogue. Direct all articles to President State College, Athens, Georgia, marked "For Industrial Museum."

The A. A. F. T. A. O. S., which of course everybody knows means the yearly "mud-fog," as an irreverent lady of our acquaintance calls the "American Association for the Advancement of Science," will hold its meeting at Dubuque, Iowa, on the 21st inst. The

meeting was appointed for San Francisco, but for some reason of which we have not been informed the executive officers have changed it as above. We may add that the meetings of this association with the abominable name are most charming re-unions, and we advise all lovers of science to attend the coming one.

Post-Hole Augers.—"J. M. J.," Halifax, N. S., asks if post-hole augers can be used on other than soft soils.—Yes; they can be used anywhere in the absence of large stones. Clay, gravel with stones no larger than hen's eggs, sand, and peat can be bored with them.

Grass-Rake.—"J. M. J.," Halifax, N. S., wants a machine for collecting grass and weeds after arrowing, so as to burn them.—The common spring-tooth hay-rake does this work excellently. A very useful rake can be made with a piece of 4 × 4 oak scantling, ten feet long, armed with teeth of half-inch round iron a foot long, and slightly curved forwards, furnished with a tongue to draw by, and a pair of stilts by which it may be lifted to release the load when gathered.

Patent Rights.—"J. N. S.," Oconee Co., S. C., is about to organize a tile manufacturing company, and asks if he purchases a tile machine will he have to pay for a right to use it?—The purchase of a machine does not always include the right except for private use. If tiles are made for sale it is a matter for agreement if any royalty is to be paid on what are sold.

Syrup from Cane.—"N. S.," Bounty Land, S. C., writes us that a neighbor made very fine syrup from cane cut before it headed out. If he will send an account of the process, from and including the cutting of the cane to the clearing of the syrup, it may be of interest to many of our readers.

Rape-Seed in the South.—"E. B. S.," Virginia, asks if rape-seed will succeed in the South.—Yes; wherever the soil is in good heart, and if it be sown in the early part of the fall, so as to get well started before winter. Rape, turnips, and cabbages grow well with proper care as far south as Florida.

Sulphur for Lice.—J. Ferry, Sonoma Co., Cal., says if "C. D. W." would rub sulphur into the skin of his cattle it will clear them of lice. He has used it several years with complete success.

Beans with Sunflowers.—"G. W. W.," Greencastle, Ind., asks if it will do to plant beans with sunflowers. One of his neighbors is making the experiment.—With a good rich soil, beans are often planted with corn and potatoes, and make a very fair additional crop. There is no reason why they should not succeed as well with sunflowers. Let us know the result of the experiment when complete.

Subsoil Plow.—"J. M. J.," Nova Scotia, wants the best subsoil plow for breaking up light sandy ground filled with roots of trees and shrubs.—The plow figured in *American Agriculturist* of June, 1872 (page 216), made with a sharp edge on the front, which might be steeled if necessary, would be as effectual an implement as any we know or could devise.

The Best Force-Pump.—"J. M. J."—"The best force-pump to be used in a cemented cistern" that we know of is the American Submerged Pump, often of late referred to in the *Agriculturist*. It may be set either in or out of the water.

Moles and their "Dark Ways."—Valentine P. Hoffman, Egg Harbor, N. J., asks what he shall do with a species of mice which make underground ways like moles, and injure the roots of his trees and vegetables.—These are the American moles, which are much smaller than some of the European ones, and not mice, and the best way perhaps to get rid of them is to trap them in their holes, which is difficult, or to poison them with pieces of apple covered with arsenic dropped in their holes, which often is of no use. A great many folks would like to know just how to get rid of them. A new mole-trap is advertised in the *Agriculturist*, which he might try.

Rennet.—G. L. Porter, Cedar Mountain, N. C., asks if cheese can be made without rennet, and if rennet can be procured at the North.—Cheese can be and is made by using acetic acid to procure the curd; but it is hard, and has not a good flavor. Rennet can be bought at or procured by almost any of the Northern seed-stores; but it can very easily be made by taking the stomach of a sucking calf, and, without emptying the contents, filling it with salt, allowing it to remain for two days, and then stretching it on a hoop of stout twig and drying it.

Composting.—"H. R. McC.," Clarksburgh, W. Va., asks if it would be proper to compost hog-pen manure with stable manure.—This would not be composting at all, but mixing, and nothing would be gained by the labor (or lost, except the labor). A compost is a mixture of fermenting substances with earth or other inert matter, which serves to dilute the richer materials, and they in their turn by their chemical activity render the added matter more soluble or more immediately available as fertilizers.

Butter-Worker.—"Thos. C. S.," Mount Auburn, N. Y., wants a butter-worker to put up butter taken in at stores into "straight lots."—We know of nothing better than the Eureka butter-worker.

A Good Native Cow.—J. W. Moore, Augusta, Ga., sends us the record of his native cow, which with her third calf, twenty-eight days old, gives five gallons of milk per day, besides feeding her calf. The cream of three days' milk yielded five and three quarter pounds of butter. The cow is fed on two quarts of cracked peas boiled with kitchen slops at a feed, and hay. His wife is not satisfied with her churn. She should get a "Blanchard."

China White Pigs.—"N.," New Albany, Ind., asks, "What kind of breed are the China White pigs?"—We would suggest that this conundrum be propounded to the Swine Breeders' Convention, which will probably meet in Indiana next fall, and at which a committee on "breeds" will be prepared to entertain it.

Circumventing the Cutworm.—"D. S. K.," Fort Plain, N. Y., has a plan to save his corn from the cutworm. He plants ten grains in a hill an inch apart, in a direct row, and not dropped promiscuously. Then, when the cutworm attacks the corn, it leaves sufficient untouched to make a crop where, if the plants were all in a bunch, they would be all destroyed. It is also easier to hoe a crop thus planted.

Fence Wire.—Chas. E. Whitcombe, Ancaster, Can., wants to know the best-sized wire for a fence to turn stock. We have used No. 9, one rod of which weighs one pound; we believe this size is in general use.

Grades and Crosses.—"A Farmer," Bloomington, Ill., asks what is the difference between grades and crosses.—A grade is the offspring of native or grade and thorough-bred parents; a cross is the offspring of two thorough-bred parents of different breeds.

A Series of Questions.—"T. W. S.," Ripley Co., Ind., asks a batch of questions as follows: "Which is the best book on raising Shorthorn bulls?" "Does the *American Agriculturist* publish 'pieces' sent by others than those employed to write for it?" "Does the *Agriculturist* insert pieces on all parts of agriculture?"—Replies: We know of no book specially devoted to Shorthorn bulls. If the "piece" is of sufficient interest to our readers and sufficiently condensed for our crowded columns, we are always happy to receive the ideas of those who are interested in agriculture, and publish them; a reference to the contents of the various numbers of the *Agriculturist* will answer this question fully.

Mange.—"J. A. O.," Elkhart Co., Ind., has a horse which is always rubbing his neck when in the stable, and seems to be very itchy beneath the mane; what is the cause and remedy?—It is probably mange, or an irritation of the skin which may develop into mange. Sulphur should be given to the horse in his feed—a teaspoonful in each feed would be a proper quantity during a week or ten days. The neck should be washed with carbolic soapsuds, and sulphur and lard rubbed into an ointment be applied to the parts affected.

Cashmere Goats' Wool.—"J. W. M.," Mount Vernon, Tenn., has a quantity of Cashmere goats' wool, and wants to know its value and where there is a market for it. There is no market for the wool in New York. We have seen it stated that there is a demand for it in Philadelphia. But with the present insignificant production of this material there can be no regular market for it. The unshorn pelts can be sold in New York, where they are made into rugs and trimmings for ladies' sacks. Write to some of the commission agents who advertise.

Soap-Scraps.—"Subscriber," East Providence, R. I., has a quantity of soap-scraps, and asks advice as to the best mode of using them and for what crops. One of the best ways of using them is to spread lightly on a clover sod and plow them in for corn. Another but more laborious method is to compost them with earth, lime, and ashes, until they are all reduced to a fine mass, and then spread at the rate of a two-horse load per acre on a newly-mown meadow, or harrow the same quantity in with the seed of fall wheat, or put a small shovelful into the hill with corn or potatoes. It is not lasting, but quick in its effects and good for grass or corn or roots.

Kerosene and Lice.—Wm. King, Green Bay, Wis., "has tried kerosene oil as an application to kill lice on calves, but their backs became sore; was it the kerosene that caused it?"—We suppose he means the calves' backs became sore, and do not wonder, for kerosene oil will readily inflame the skin. Crude petroleum should have been used in small quantities, or the kerosene should have been mixed with lard.

Running at the Nose.—"O.," Elkhart, Ind., wants a remedy for a horse troubled with running at the nose.—It is quite impossible to answer such ill-defined questions. The complaint may be catarrh, the result of a cold merely, or it may have progressed into a confirmed nasal gleet or glanders, in which case the disease would be either too serious or dangerous to trifle with. Better take advice from a veterinary surgeon. A catarrh may generally be cured by giving warm bran-mashes with a teaspoonful of saltpeter added, and a bag of scalded bran hung so that the nose can be steamed for a few minutes daily.

Clover-Seed.—"A Subscriber," Hopkinsville, Ky., asks which is the best method of saving clover-seed, the best machine for hulling the same, its cost, and where it is to be procured.—Clover-seed should be saved by cutting the second crop when the seed is ripe, generally about September. The crop should be stacked or put away until cold frosty weather, when it should be thrashed and hulled. Hulling machines may be bought at any large agricultural implement store; price about $55.

Warbles.—"L. W. B." says if "A. B. F.," "or any other man," will brine the backs of his cattle once every week during the summer months they will not be troubled with warbles or grubs.—We notice in a "journal" devoted to stock the ridiculous statement that these grubs are the larvæ of the sheep-fly (*Œstrus ovis*); that they will kill small cattle, and squirrels and rabbits. This is quite wrong. The parent fly is one of the gad-flies, the *Œstrus bovis*, and no other animals but horned stock are troubled by them, and although there are few cattle altogether free from these grubs, we never heard or read of a case in which an animal was seriously injured or killed by them.

For other Items see page 313.

SUNDRY HUMBUGS.—*Lies Nailed.*—Several readers inform us that when we denounce medicines and other humbugs, and country agents write to the head-quarters of these operators, they are told that the reason for our denouncing them is, because they do not advertise with us, or because we have tried and failed to get the printing of their circulars, etc. This dodge was tried also before the jury in the Byrn libel suit. Two simple statements will squelch these dastardly falsehoods. *First:* We have no job printing-office; we do no printing for others, but even hire our own circulars and job-work done in other offices. *Second:* We never admit medical advertisements, nor any others, except from good, reliable parties, doing a fair square business in a fair way, though tens of thousands—yes, hundreds of thousands of dollars have been offered us to advertise these things. We could get rich in a year if we admitted the advertisements of these medicine-sellers and of others who give little or nothing, or worse than nothing, for the money they receive, and who can therefore pay largely for advertising.....The "Queer" operators are shown up in another article, giving an interesting account of their mode of reaching people. Brown & Billings, 292 Chestnut street, Philadelphia, Geo. Harrington, Monument square, Baltimore, Arthur Debenham, 190 Broadway, N. Y., and others, are in the same line, with the Masonic and I. O. O. F. dodge. They operate in Ontario as well as in the United States..... The "Queer" operators at 22 West 4th street, New York, have carried on the "Spanish Policy" dodge, with new features, under many names, such as Edward Barnes, Martin Ellenwood, etc., to confuse the Post-Office clerks. He sends out gilded certificates, pretended to be signed by N. A. Personia, Madrid, Spain, which state that the recipient has drawn a $200 gold watch, or other valuable article, that will be forwarded to him on receipt of the usual five per cent ($10)—and some ignorant people bite the bait and lose their money!....."Constant Readers" and others will be worse than foolish if they give the slightest credence to those advertising doctors with high-sounding names and positions.....A Connecticut reader gives us an account of a visit to an Ann-street swindling shop of the envelope order. We have often shown these up. The only safe rule is to avoid all those shops (and

their circulars) which pretend to give $2 for $1, whether by ticket, envelope, or otherwise.....If any reader is so simple as to believe the medical story of the so-called "old Marcus Pettigrew" and his daughter, they will have to suffer for their greenness. Any one who receives and distributes the circulars or medicines of this or any other advertised medicine is a nuisance to the community in which he or she lives. The plausible stories make well people sick..... Thos. D. Thorp, 737 Broadway, the note swindler, previously exposed, continues his offers of Internal Revenue Brewers' Stamps at eighty per cent discount, on the plea that his cousin prints them in the Government printing-office. Of course he never supplies any, claims that his *offer* is not criminal, and escapes by a legal quibble. Those who send money lose it, but will not appear as witnesses, as that would show them "*particeps criminis*"—in attempting to buy professedly stolen stamps—and so the villain stands unconvicted.....Those foolish enough to send fifty cents to H. T. Moore, Box 2,751, New York City, for a "sure way to succeed," and get $2,000 a year, have not "gumption" enough to succeed in anything, or to keep money *if* they get it.....The "Silent Friend," proposing to teach everything, and some more, is another catch-penny humbug.....T. S. Pattison, Elmira, N. Y., is vigorously pushing his detestable lottery scheme, yclept a "Premium Land Sale," and we are sorry to see several otherwise respectable newspapers helping him by inserting his column advertisement.....Numerous letters give us details of how the writers have been swindled out of $10 to $500 each by those pretending to cure private diseases, early indiscretions, etc. Every one advertising such medicines is a quack.....If you want a "radical regenerator," go to a good well-known physician, but on no account touch any of the quack medicines, and don't read the circulars or symptoms, or you will surely be sick.....Dr. Fitler, of Philadelphia, claiming to be a Professor of Toxicology, etc. (where? and by what authority?), doesn't have as much confidence in others as he wants others to have in his medicines, for he requires pay of agents in advance, on his promise to buy the medicine back after six months if not sold. "It's a poor rule that don't work both ways."....Give a cold shoulder to all "Silent Friends," "Roads to Fortune," oroide watches, butter-powders, and those who offer them..... "Just the Thing for Boys" is a villainous advertisement of just the thing no boy should have. Beware of "Lock-Box 26, Lincoln, Ill." A mean villain offers vile things from that address. No wonder he is ashamed of using any name that the people there could find. How about the P. M.? He must know who gets letters there..... Our space is exhausted, with sundry other humbugs on hand which must go over to next paper.

Hedges.—R. C. Hall, Montgomery Co., N. Y. Warder's is the best, and indeed the only work on hedges. As you say, it is only full on the Osage Orange. This is the only subject he intended to treat, and the other matter was, as we understand, only added at the earnest request of the publisher who originally brought out the work. In the matter of articles on hedges, we will endeavor to comply with your request at the proper season.

Ice on Weed.—Cyrus Nade, Christian Co., Ky. It is impossible to tell the name of your plant, which "in the fall has beautiful specimens of ice attached to its bark," from the bark only. If you can send us the flowers, we can tell you what it is.

Those Mules.—We have received about a dozen letters from parties who have mules for sale, and have forwarded the names of the writers to the party who made the inquiry for them. This occurrence seems to point out that there are many parties wanting what others have to dispose of, and it is obvious that the mutual interest of these parties would be best served by making their needs known to the public through the advertising columns of the *Agriculturist*.

A Specimen of Rock.—"F. N.," New Albany, Ind., sends a specimen of rock, and wants to know if it contains lime, or is of any agricultural value, and if it occurs under the "old red" or "new red" sandstone. This rock is a fragment of clay slate, contains no lime, and is of no agricultural value; it is not crystalline in texture, and does not occur beneath the old red sandstone. It is very similar to some of the clays of the coal measures, but may belong to a still later age than the new red sandstone; without seeing it "in place," it is impossible to give the exact geological position.

Wants to be a Farmer.—"C. I.," Painted Post, N. Y., wants advice. He was raised on a farm, knows all about farm work, and wants to be a farmer, but fears that he will not be able to make it as profitable as his present occupation, which brings him a salary of $1,200 a year, out of which he can save $300 to $400. There is an old proverb applicable to C. I.'s case, which is, "Let well enough alone." He is better off as he is than thousands of farmers who work harder and make less than he does.

Cooking Feed.—J. N. Robertson, Cass Co., Ill., cooks corn in the ear or meal for his stock, and finds it conducive to their health, and economical in the use of feed. He uses a trough with sheet-iron bottom and pine-plank sides, and ends similar to a syrup evaporator, in which water may be made to boil in a few minutes.

Warts on Cows' Teats.—"Subscriber," Snowshoe, Pa., wants a remedy for warts on cows' teats. If the warts are quite small, cut them off with a sharp shears, and cauterize the wound with nitrate of silver (or lunar-caustic). If they are large, wet the wart, and rub the caustic on to it twice a day, after milking, until it disappears.

Beef and Butter.—"H. H.," Fern's Mills, Mich., asks what breed of cattle are, on the whole, best to raise for beef and butter. If the pasture is luxuriant and can be kept "knee-high" all the time, or plenty of feed can always be procured, grade Shorthorns of a good milking family will be the best; otherwise, Ayrshires.

Ashes and Hen-Manure.—H. Hutchins, Allegan Co., Mich., asks if ashes and hen-manure are good for corn and potatoes, and how they should be applied. They are excellent for both crops, and should be applied a handful in the hill, at planting time, well mixed with the soil.

The Largest Milking in Twenty-four Hours.—"S. S.," Alexandria, La., asks what is the largest milking of a cow, during twenty-four hours, on record. Allen, in his American Cattle, mentions a Dutch cow owned by W. Chenery, of Mass., which gave in one day 35⅛ quarts. We have a scrap cut from a French paper some years ago, which states that a cow in Holland gave in one day 39½ quarts. These are the largest recorded milkings we know of.

Farm Gate.—A correspondent who forgot to affix his name to his letter, sends a sketch of a gate, "not patented," but the principle on which it works is patented; it would therefore be an infringement.

Concrete Buildings.—"A Subscriber" wants the address of a man who erects concrete buildings. As this is a well-understood process, we should think any intelligent mason could put up such a building. We do not know any one who makes a business of it.

Poison Ivy.—Paulus Keck, Dorseyville, Pa., asks how to destroy poison ivy. We killed by keeping the fence rows mowed during one summer. If there is any easier way, we should be glad to learn it.

Sugar-Waste as Manure.—"A Constant Reader," Philadelphia, asks if the waste from a grocery-store, which consists of sugar and molasses mixed with sawdust, is worth hauling six miles in preference to paying 50 cents per month per horse for stable manure. The stable manure is better worth paying for than the sweet stuff, which is little else than carbon and of slight use. All cattle have a sweet tooth, and are very fond of sugar, occasionally. It will do them no harm if they lick such waste stuff.

Value of Sorghum Bagasse.—"J. W. G.," Ohio, wants to dispose of a quantity of bagasse of sugar cane. We would burn it and save the ashes, if we could not plow it under, and spread the ashes on wheat or grass.

To Bring New Land into Cultivation.—An "Admirer," Spring Lake, Mich., asks what he shall do with a piece of newly-cleared woodland, to get it into cultivation. The usual mode is, to plow it as far as possible and plant potatoes, cultivating with the hoe. Take up the crop in time to sow wheat, which is harrowed in the loose soil, without plowing. Sow with the wheat six quarts of timothy, and in the spring four quarts of clover. Leave it in grass until the stumps and roots are rotten.

Iron-Weed.—Geo. Hoke, Mount Pleasant, Frederick Co., Md., has been looking out for roots of "Iron-weed," and writes us for the address of the party who inquired how to destroy this weed, in October *Agriculturist*. As his letter was without State or county, and a town of the same name is in five different States, we were unable to comply with his request. [N. B.—All letters should have county and State invariably added to post-office; many inquiries come to us that depend on correct locality for a proper reply.]

Lard-Makers' Refuse.—"I. F.," Edwardsville, Ind., has a quantity of refuse from a lard-rendering factory, which consists of dry flesh, hair, and bones, easily pulverized: how can he best use it?—His method of composting this valuable material with fermenting stable manure and earth is excellent, and will make a very active and lasting fertilizer, of which ten to twenty loads per acre will be a fair dressing.

Cure for Stifle.—"B. J. C.," Wilton, Minn., asks if there is any cure for a colt that was "stifled" a year ago. It is probably past cure now; taken at the earliest moment, it is often incurable, but when confirmed by long standing, the case is hopeless. Strong astringent lotions applied to the stifle-joint, chiefly on the inside of the thigh, good food, and absolute rest are the only remedies.

Clover in Virginia.—"F.," Concord Depot, Va., has lately removed from New York State to Virginia, and finds the country suitable for sheep and clover. He can show a nice stand of clover and a good flock of Merinos there.

To Destroy Milk-Weed.—"F. Van D.," Oneida Co., N. Y., asks how to destroy Milk-weed. We know of no plan but plowing the ground and harrowing up the roots and picking them off. No surface application will answer.

A Calcareous Soil.—"A Subscriber" asks, What is a calcareous soil?—It is one which naturally contains *carbonate* of lime. Lime exists in the soil generally in the state of carbonate, and sometimes as sulphate, in small quantities.

Hay-Press.—"G. L.," Blairsville, asks for a hay-press that will press 400 to 570 pounds of hay into a bale. We don't believe there is such a press in existence. The heaviest bales of hay we have seen averaged six to a ton, or 333 pounds each; the majority are lighter.

The Lime Interest.—H. Wildey, Carroll Co., Ill., asks if we know of any paper published in the lime interest. We do not know of any; if there is any such, we should like to know of it.

Hard-milking Cows.—E. Ryder, Brewsters, N. Y., writes that he improved a hard-milking cow by enlarging the orifice of the teat by inserting carefully the sharp blade of a fine penknife. The orifice should be enlarged sufficiently to allow for some contraction, which will occur during healing. If a small wooden plug is kept in the teat, during healing, no contraction will occur; the plug should be rubbed with sweet oil.

A Pig that has Fits.—"Wm. A. W.," Foster Center, R. I., has a Chester White pig that is troubled with fits. He feeds meal-pudding, warm. This may be the cause. Fits are caused sometimes by worms, and sometimes by indigestion; warm feed causes indigestion. Feed cold mush.

To Cut Corn-Fodder.—"W. S. H.," Niagara Co., N. Y. Corn, sown for green fodder, may be cut either with the mowing machine or with the common cradle. Our practice has been to cut with a one-horse mower sufficient for one day, and cart it to the barn in a one-horse wagon. The horse is moved from the wagon to the machine, and back again, when needed, and the work is very quickly performed; when the field is near to the barn, fifteen minutes' time is sufficient.

The Cost of Keeping Rats.—A stack of wheat was lately thrashed on an English farm, according to the *Farmers' Chronicle*, out of which 1,040 rats were taken; only three escaped out of the lot. The damage done is not stated, but can easily be estimated.

An Aged Parrot.—A parrot lately died in England, which belonged to an old lady, a Mrs. Turner, and which had belonged in turn to her mother and grandmother; it was said to be 113 years old at its death.

Strawberries set in July.—"W. M. B.," Weston, Ct., asks if strawberries set out in a peabed in July will bear next year, or if it will pay better to plant turnips.—If the strawberries can be taken up with a ball of earth—better if potted—and put out so that they will not be checked in their growth, they will give a good crop next year. The other question depends upon the relative price of strawberries and turnips in your market. Properly managed, there should be no difficulty in getting a good crop of strawberries.

For other Items see page 313.

Road Tax in Ohio.—Referring to some remarks in "Walks and Talks" in the June number of the *American Agriculturist*, Jno. S. Bowles, of Ohio, writes: "Here in Ohio a man is taxed so many dollars road-tax according to property, but he has the privilege of working it out at $1.50 per day, or $3 per day for a man and team, and wagon, or scraper. No supervisor of roads ever objects to a man's working his road tax in the spring. On the contrary, he very often insists on it. It is the farmers who generally object to working out road tax until fall, when they have nothing else to do. Sometimes, however, they do the work in May. When we plow and scrape we only have as many teams as there are scrapers. When we draw gravel, in which most of our work consists, we have a number of teams and wagons at it, and enough extra shovelers to keep the teams on the road, and not at the gravel-pit, nearly all the time. Every man has a poll-tax of two days' work to perform yearly. The supervisor can either allow one day with a team, or call for two days at shoveling gravel. If he needs shovelers, he will do the latter. More work can be accomplished at the same expense by the teams being constantly on the road than if every man's team stood still until he filled his own wagon."—No doubt about that. We fear, however, that every district is not favored with such a sensible supervisor. Road-making or repairing requires some experience and much good judgment, and we can not but fear that a good deal of time is lost in doing work at the wrong season, and in not half-doing it. The commonest mistake is in not providing good drainage. Three inches of well-screened gravel laid on a thoroughly-drained and rounding road-bed will make a far better and more enduring road than a foot of unscreened gravel laid in the wet spots. There is dirt and sand enough on our roads without drawing them from a gravel-pit.

Night-Soil.—"C. C." asks how he shall use two loads of night-soil.—Mix it with a few loads of fine earth, and put a handful or two into each hill of corn.

The Wisconsin State Dairymen's Association has decided to establish the coming season semi-monthly market days at the city of Watertown, for the sale of dairy products.

What is the Matter with the Horse?—"A.L. B.," Trenton, Pa., has a horse which is stupid and dull, as though something were the matter with the head. Possibly there is: if there is redness of the eyes, it may be caused by inflammation of the brain, or it may be caused by overfeeding, or a too tightly fitting collar. Books in such a case are useless, and the trouble is so ill-defined that we can not offer any advice except to consult a veterinary surgeon about it.

A Patent Wanted.—"S. S.," Bedford, Pa., sends us a sketch of a farm-gate which he claims is a new thing, and wants our opinion about it. As the claimed improvement has not the least novelty, we give our opinion, and would not advise "S. S." to spend any money over it. We think that the gate business, being already hampered with over 100 patents, should now be left in peace, and inventors turn their attention to methods of doing without gates at all; and fences as well.

Buffalo Bulls.—If "P. B. B." will send his address (former one mislaid), we will give him the address of parties who can furnish him with a young buffalo bull, or he can apply to the party who advertised them for sale in the July *Agriculturist*. People often don't know that they want many such things until they discover that they can get them, and the "Basket" is not exactly the proper vehicle for carrying buffalo bulls and the like between seller and buyer.

Shall He Buy or Hire a Bull?—"P. M.," Pleasant Run, Kansas, asks if he shall buy a thorough-bred Shorthorn bull at $200, on a year's credit, or take him on shares of half the value of his services. He has 20 good native cows. We would advise the latter course, lest when pay-day comes inconvenience should arise in meeting it. A farmer, as a rule, should never run in debt, except to drain or manure his farm, and then only in rare cases. When the funds are *in hand*, then buy a bull as soon as possible.

To Improve an old Meadow.—"J. F. R.," Norwalk, Ct., wants the best manure to start the grass on an old, run-out meadow, in the absence of stable manure. We would harrow the meadow with a sharp, heavy harrow, and spread 300 lbs. of fine bone-dust early in spring, with a little timothy seed where the ground is bare. Harrow again with a very light harrow or a bush. If swamp muck could be dug through the summer, a top-dressing in the fall would be useful.

Is it too Late to Sow Mangel-Wurzel?—It is too late to grow a large crop. But if the ground is rich, mellow, and clean, a fair crop may be grown, sown as late as the first week in July. Seed-growers who raise moderate-sized roots for the purpose of setting them out for seed next spring, often sow as late as the first or middle of July. They sow in rows, say 2½ feet apart, and leave the plants six inches in the rows. If the ground is moist and the seeds are sown by hand, a week or so may be gained and much weeding saved by soaking the seeds for 48 hours before sowing, taking care to change the water at least every 12 hours. If, after soaking for 48 hours, the ground is not ready, pour off the water and keep the seed *moist* until you are ready to plant. It can be kept two or three days, or even until it sprouts, without injury, provided the sprouts are not knocked off in planting.

"What is a Hogget?"—It is an English term applied to sheep, and, like many other similar terms, does not seem to have any very definite meaning. Webster, quoting from the American agricultural writer Skinner, says, "A hogget is a sheep two years old." As we understand the matter, however, the general meaning of the term as used by English farmers is a sheep, male or female, from the time it ceases to be a lamb until it is shorn for the first time. After it is shorn it is a "shearing" or "shearling;" when shorn the second time, it is a "two-shear" sheep, and when shorn the third time, a "three-shear" ram, ewe, or wether, as the case may be. A "hogget," then, is a lamb, without regard to sex, from five to fifteen months old, or until it is sheared. After that it ceases to be a hogget and becomes a shearling. For the sake of distinction it is, we believe, proper to say ewe hogget, wether hogget, etc.

Artificial Cider.—"D. P. B." We have no formula for artificial cider, and if we had, should not publish it; we do not believe in sophisticating.

Roaches — Insect-Powder. — L. G. Hedge. If you can get fresh Persian Insect-Powder, you can get rid of roaches or cockroaches. Here let us state that all the various "lightning," "electric," and other bug-powders are only this done up in small packages. The Persian Insect Powder is the ground flowers of several species of Pyrethrum, and is put up in chests in the Caucasus. Its value depends upon its aroma, and consequently upon the care with which it is kept. The importers, when they open a case, immediately put the powder into pound bottles, securely corked. We get ours of Lasell, Marsh & Gardener, No. 10 Gold st., New York, in pound bottles, at $1.25 each. It is sure death to every cockroach it touches. We use a bellows and blow it into all the cracks. Get your druggist to order it for you.

Clover amongst Corn. — "A Young Farmer" in New Jersey is engaged in raising green corn for the city market and wishes to grow a crop of clover between the crops of corn. The corn is off by the first of August, and some of it by July 20th. He asks if clover will do well sown at this season of the year; if so, he can grow corn every alternate year.—Yes, it will do well, sown in July or August, provided the land is clean, moist, and in good condition. Sow seed enough, say 8 to 10 quarts per acre. If the crop can be removed and the land got in good condition by the middle of August, we should prefer to wait and plow, and thoroughly harrow the land before sowing the seed, and then roll. But otherwise it will be better to sow the seed among the corn after the last cultivating.

Buggy Peas.—"J. R.," Wayne Co., N. Y. We know of no remedy. All you can do is to feed out your peas to the pigs early in the fall, before the "bugs" grow large enough to eat their way out of the peas and escape. If fed out before the first of November, there will be little loss of nutriment, as the pigs will eat peas and bugs together and grow fat on them.

Pigs for Choice Family Pork.—A Jersey farmer writes: "I raise quite a number of pigs, and sell them to people who get the city slops, and who want them to fatten at from six to ten months old. Have got my name pretty well up for raising the right quality of pigs, so that orders come in from three months to one year ahead. This with a common stock of hogs, lightly crossed with Chester Whites, such pigs ranging from 275 to 300 lbs. at ten months old. Last fall I thought to still further improve part of my stock by using a Jefferson County boar, which has perfectly disgusted me with them. The pigs are now six weeks old, and I could put any of them in my overcoat-pocket, while my other pigs go from 25 to 35 lbs. at eight weeks old. Now, what I wan't to know is, whether you think a thorough-bred Essex boar put to Chester White or other large sows would give me pigs that would grow faster while young and mature earlier than others in which there is no Essex blood?"—The pigs from such a cross may not weigh any more at two or three months old than the Chesters, but they will be finer boned, smaller eared, fatter, and more stylish-looking. At any rate, this is our experience and observation. A second cross, if you select the best and most vigorous sows, will improve them still more. And if well fed, the quality of the pork can not be excelled. But it should be understood that such pigs will not stand starvation and neglect. They are bred to grow rapidly and mature early, and must have something to grow with.

Chester Co. Mammoth Corn.—"D. H. B.," West Brandywine, Pa., disagrees with Thomas Wood, of Doe Run, Pa., when he states that the Chester Co. Mammoth corn is simply the result of good culture. He asks if heavy feeding would make native cattle equal in size to the Kentucky Shorthorns, and if not, could heavy manuring change an inferior grain into one of great excellence? The theory and practice of culture and breeding are against the views of "D. H. B.," and in favor of those of Thomas Wood, and they prove that "the careful cultivation of one distinct variety" does not deteriorate it, but within certain well-defined bounds improves it. The highly-bred Shorthorns are the result of the careful and long-continued culture of a race of native British cattle, and are totally different in character from the uncultivated progeny of the same race now existing. Besides it can be shown that corn cultivated without change of seed for sixty or eighty years, at least has not degenerated. Yet great improvement often results from the introduction of new or fresh varieties.

Value of Bone-Black.—"W. A. G.," Washington, asks what is the value of bone-black and Guanape guano as compared with raw bone and Peruvian guano. Bone-black having by burning lost its animal matter, contains little or no ammonia, and its value is therefore less than that of raw bone, probably one fourth or even more. Guanape guano is so variable in composition that its actual value can not be stated. Generally, Dr. Voelker states it to be less in the best samples than Peruvian guano. What the poorest samples are worth it is impossible to say.

How to Smoke Meat.—"T. M. D.," Baden, Mo., wants to know which is the best weather in which to smoke meat, wet or dry. It is quite immaterial as far as regards the dryness or juiciness of the meat. This is affected by the degree of heat in the smoke-house. If the house is kept cool the smoking will leave the meat juicy, but if the temperature becomes too high the meat is dried. Damp weather affects only the surface.

Stripping Cows.—W. H. Barns, Oakwood, Kansas, has heard of folks stripping their cows into a small pail, and putting it directly into the cream-jar, claiming it is nearly pure cream, and always thought it absurd. It is true, nevertheless, and we supposed everybody who had a cow knew that the last drawn milk is much richer in cream than the first.

About Borrowing.—A "Subscriber" asks if we would advise a farmer who has a good farm of one hundred acres to borrow $2,000 to purchase stock for a butter-dairy farm. If the farmer knows enough to lay out the money judiciously, the stock ought to be always worth the cost, so that he really is not in debt; and we don't hesitate to advise any farmer to borrow money to improve the productive capacity of his farm.

The Sawdust, or "Queer," Humbug.

This has been shown up often in these columns. The most extensive operator in this line now sends out the following circular, under seal, with no name attached, but a name is written and inclosed in it on a separate slip. As all letters to swindlers are stopped at the New York Post-Office, this fellow uses a great variety of names, changing them faster than they can be followed up by the Post-Office clerks. Thus, in a lot of the same circulars before us, we find slips with the following names and many others, all giving the address of 22 West 4th street or 16 South Fifth ave., New York: Wm. Dalley, S. Yetter, Jonas Phillips, Wm. Coombs, Joel Jewells, John H. Kinkkard, Darius Driscoll, David Curran, Rollin Burdick, Henry Oatman, Martin Bowker, Lemuel Haines, Ezra Whitcomb, Joseph Hoffman, Jonas Moore, Herman Andrews, David Curran, etc., etc. As a curiosity, we give the circular entire. It will be understood that nothing is ever returned for the money sent, the sender not daring to expose himself as a would-be dealer in counterfeits. If one comes to the shop he is scared out of his money, or has it taken from him by a bogus policeman. If parcels are sent out by express, C. O. D., they are filled with "sawdust" or other trash, the character of which is not known until the recipient has paid a large bill and taken

his box to a private place. If he is suspicious, and don't take out the box, he gets a lot of letters threatening exposure, etc.—all of no account. Here is the circular, which is sent out by the hundred thousand, and enough dishonest greenhorns are caught to make it very profitable:

"STRICTLY SUB-ROSA, AND THE SECRET NEVER TO BE IMPARTED TO A LIVING BEING.

"MY DEAR SIR: I take the liberty of sending you a Circular that is printed by myself in my own printing office, in order that its contents may be known only to the few that I conclude to take into my confidence.

"I hope that after I have placed confidence enough in you to send a circular of this kind, relating the nature of my business, that you would not be so treacherous as to even breathe the contents of this document to a living being; *should you betray me, I will find means to be avenged in a way perhaps you would not dream of.* If you do not wish to enter into this confidential business with me, all I ask is, that you burn this circular and let the secret die with the flame. On the other hand, if you conclude to enter into this speculation, that will in a few weeks make you a wealthy man, I would also advise you to burn the circular and preserve the secret, as when this circular is destroyed all evidence against you and me is obliterated.

"A person in a business of this character must be true to themselves, and as true as steel to the person they are doing business with. You should always abstain from the use of strong drink, for in that there is great danger, as a person knows not what he might say when drunk. You should also keep the secret of the business as still as the grave, not even hint at it to your nearest relation or breathe it to your second self. Now, with all the warning I have given you that is most necessary to adhere to without a single exception, I will proceed to state facts in reference to the business, which, if managed with care and shrewdness, will lead you to fortune without any one dreaming from whence your wealth came.

"In the first place, I wish to state that I am an engraver, and said to be by those who are competent of judging, the most expert one in America. I have been employed by the U. S. Government for ten years. I superintended the engraving of all the plates for the United States money. When the Government ceased to issue Greenbacks my services were no longer required, and as soon as I found that my time was my own I conceived the idea of engraving a few plates for myself and for my benefit, as I am well aware that a man can never become wealthy working for a salary. I have only recently finished the work that I began almost two years since, that is, the engraving of six plates which are exact duplicates of the Governments. Mine are the Fifty Cents, the One, Two, Five, Ten, and Twenty Dollar plates. I have taken the greatest care in engraving these plates, and I defy the best experts to detect the counterfeits from the genuine. I deposited a few days since a large amount of my money in six different banks in New York; they all accepted it without saying a word; my money being all new, I thought it would not be advisable to deposit any more, for fear they might think something wrong. When it is deposited in banks there should be other money that has been in use mixed with it, then there will be no suspicion, and I now need only a few true men to assist me for six months, then we will secure a fortune that will enable us to enjoy all the pleasures that money can procure on earth. My bills are printed on exactly the same paper as the United States money, so that there is not a possible chance to detect the difference only in one way, which is this: the Government bills are numbered from one up, so are mine. If you should come across two of the same number, one will certainly be counterfeit and the other genuine. If it is convenient for you to come to New York, I wish you would; then you could see the money, and I would give you a few dollars to pass, then you would see that everybody would take it exactly the same as if it was genuine.

"The price of my money is ten cents on the dollar; one half cash, and the other half as soon as the money is passed. State in your letter, when you order, how many 50 cts., $1.00, $2.00, $5.00, $10.00, and $20.00 bills you wish, so that I will know exactly how many of each to send. You must be sure to seal your letter perfectly tight, and write my name very plainly. I will make the following discounts when large amounts are ordered. For a three hundred dollar order the price will be thirty dollars. You must inclose ten dollars with the order, and the other twenty dollars when the money is passed; and for larger orders at the following rates:

$400 order for $40. Send $12 cash, and $28 when money is passed.
$500 order for $50. Send $15 cash, and $35 when money is passed.
$1,000 order for $100. Send $25 cash, and $75 when money is passed.
$5,000 order for $500. Send $100 cash, and $400 when money is passed.
$10,000 order for $1,000. Send $200 cash, and $800 when money is passed.

"When a large amount is sent, I pack it in a box and mark it in such a manner that no one would suspect it being money, and send it by Express. Always state when you order how you wish the money sent, and if by Express.

"I will send you a hundred dollars assorted, on receipt of five dollars, so you can see how it passes, then you can order a large lot.

"By all means come at once and see me if possible, and bring all the money you can possibly raise with you, so you will be prepared to buy a large stock, for this may be the last chance you will ever have to make a fortune at a single stroke. After you arrive in the city you can take the Broadway stage and get out at Fourth street; walk down Fourth street, west side, until you come to No. 22; you will see the sign 'Book Agency ☞' over the door of the office. I occupy the ground floor, so you will have no trouble in finding me. But if you can not possibly come on here now, send me 10, 20, 50, or 100 dollars in a thick envelope, by mail, or by express. Do not send by registered letter under any circumstances. All registered letters are supposed to contain money, and Post-Office Clerks are apt to open them, take the money out, and then seal them up as before, and send them through. You see if this were to happen it would expose the whole thing. I guarantee to send you back ten times the amount I receive, in the best counterfeit money ever issued, or if you prefer I will send my money to you C. O. D. by express, and you can pay the money due me to the express agent when he hands you the package. I sew the money up in the lining of a coat, and pack it in many other ways before I ship it, so no one would dream of its being money. Now, my dear sir, I have disclosed this golden opportunity to you in faith and hope—faith in your ability and fidelity, and hoping that one year hence may find us both wealthy and happy, and I here pledge you my word of honor that while you are faithful to me I will be true to you. My name and address is on the enclosed slip, which you will keep, but burn this circular.

"This is the compact which I sign, and to which you must agree: 1st—We mutually agree not to betray each other, and to disclose this matter to no living soul. 2d—I am to return to you, secure from observation, ten dollars of the best counterfeit money made for every dollar I receive from you. 3d—When you come here to see me, I am to count you out $10.00 for every dollar you give me, and you need not pay me until you have my money in your hands. We must do business under this compact, and let him who first violates it suffer the consequences."

Arsenic for Pigs.—W. W. Chance, Naples, Ill., says he has cured his pigs of paralysis of the hind parts, or kidney complaint, by giving a quarter of a teaspoonful of arsenic in their feed once a day. Pigs had been thus cured which had been affected for two months. [There are several other less dangerous remedies than arsenic, which are therefore preferable in all such cases.—ED.]

Canker of the Frog.—"X.," Randolph Co., Ill., has a mare whose feet are out of order; the frog is swollen, soft, spongy, and tender. What must he do?—This is probably canker, or it may be a commencement of thrush, caused by standing in a wet, foul stable or yard, or running in a wet, mucky field, or by an unhealthy condition of the blood. The soles should be washed with warm water and soap, then with a strong solution of blue vitriol (sulphate of copper); if there are any cracks in the sole, they should be filled with tow, soaked in the solution. If the general health is poor, that should be remedied at once by proper treatment.

Bones.—"N.," New Albany, Ind., asks, if bones can be purchased at $8 per ton, whether it would be cheaper to burn them to reduce them to powder than to buy bone-dust at $35 per ton. If the bone-phosphate alone is wanted, it would be cheaper to burn and crush them. If the ammonia is wanted as well as the phosphate, bone-dust from unsteamed bones would be cheaper at the price, as the nitrogen from fresh raw bones is considered by Prof. Johnson to be worth $24 per ton of bones.

Buffalo Crosses.—"Army," Fort Leavenworth, Kansas, advises "P. B. B." (see *Agriculturist*, May, 1872) not to use the buffalo bull for crossing purposes. He has lived during several years in the buffalo country, and they say there that a half-bred buffalo calf will have the hump common to the buffalo, which will be fatal to the cow in her efforts to produce the calf. Domestic bulls will not breed with buffalo cows. Near Chicago several valuable cows have been lost in the effort to give birth to half-bred buffalo calves. We give "Army's" letter, but he seems not aware of the fact that the buffalo bull has been crossed with success with the native cow, and the heifer calf from this union has bred with a buffalo bull.

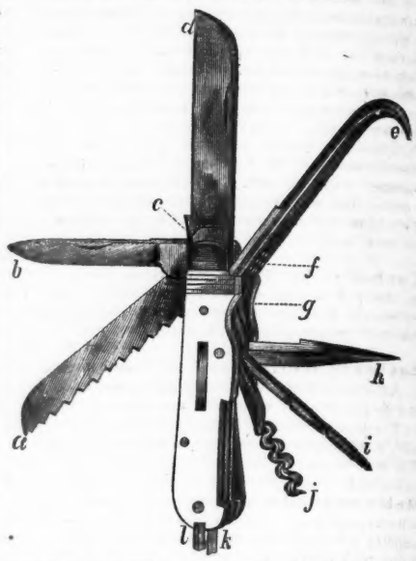
Salt-Cake.—"L. S.," Saratoga Co., N. Y., asks, what is salt-cake, and what is it worth as a fertilizer? Salt-cake, the refuse of the salt manufactory, contains mainly sulphates of soda and magnesia or Epsom and Glauber salts and chloride of calcium, which are practically of no value in agriculture, or but very little; in fact, they often do more harm than good. Such matters should not be used without a well-understood purpose.

Artificial Manures.—"A Subscriber," Bonsacks, Va., last year collected two tons of horse and cattle droppings, which he mixed with nine bushels of unslaked lime, same quantity of leached ashes, and four hundred pounds of guano. The mixture was pulverized and sowed with the drill at the rate of 100 pounds per acre on the wheat crop, with what advantage to the crop is not known. He thinks that if farmers knew what ingredients to add to their compost heaps much valuable and cheap manure might be made.—This experiment is not a satisfactory one, because there is no result, for the reason that the effects were not watched and noted. 100 pounds of such a compost is too small an application except for comparison. 500 pounds per acre would have been better, but the effects of it should be closely observed as a guide for the future. Besides, the mixing of fresh lime with ammoniacal manures is contrary to what is considered sound principle, unless plenty of absorbent matter, as leaf-mold, swamp-muck, or even earth, is added to retain the escaping ammonia.

Saltpeter.—"W. J.," Fitchburg, Mass., asks if saltpeter would be of any benefit as a dressing for grass land. Nitrate of potash, which is one form of saltpeter (nitrate of soda, called soda-saltpeter, being another), has been used as a dressing for grass with very good results in England, but in dry seasons it is apt to "burn" the crop. It should therefore be used with caution, and in quantities of not over 100 pounds per acre at a time. It encourages the growth of clover and the most valuable grasses, and tends to make the soil more absorbent and retentive of moisture. Nitrate of soda is not so highly thought of as nitrate of potash.

To Drain a Flat Beaver Meadow.—"Old Field" has a beaver meadow which he wants to drain, but there is not sufficient fall on his land. He suggests digging a fish-pond. This would not reduce the level of the water. If permission could be got, the creek might doubtless be lowered a foot or two in much less than a mile; if not, there is no resource but digging channels to collect the water, and sowing Red-top.

SPECIAL PREMIUMS STILL OFFERED.



MULTUM IN PARVO KNIFE, OPEN.—WEIGHT 2 OZ.

The General Premium List closed July 1st. The following Special Premiums are continued until further notice:

The Multum in Parvo Knife for 8 subscribers to *American Agriculturist* at $1.50 a year; *or* 4 subscribers to *Hearth and Home* at $3.00 a year; *or* 5 subscribers for one year to both the above papers at $4.00 a year. (Knife sent post-paid.)

The Beckwith $10 Sewing Machine for 12 subscribers to *American Agriculturist* at $1.50 a year; *or* 6 subscribers to *Hearth and Home* at $3.00 a year; *or* for 10 subscribers to both papers at $4.00 a year.

N. B.—Two half-year subscribers in all the above cases may count for one full year in a Premium Club List.

MULTUM IN PARVO KNIFE, CLOSED.—3 inches long.

Raising Water.—"T. N." has his house 40 feet above a spring, and 150 feet distant from it. What would be the best and cheapest way to bring the water to the house?—If there is a fall of several feet within 30 or 40 feet of the spring a ram could be used, at a cost for pipe and ram altogether of about forty dollars. If there is no fall, a windmill might be used, at a cost of about $150, or less if made at home. See *Agriculturist* for May, 1872.

What Manures?—"J. M. J." asks what manures, artificial or otherwise, would be best for soil composed of "*silex and silica*," oxide of iron, alumina, and sulphates and carbonates of lime and magnesia. This description is very incomplete, and although it might form the basis of a theoretical chemical formula as to the necessary manures, we do not consider it of any value practically. We never knew a soil which could not be improved by barn-yard manure, with a dressing of lime every five years, and good plowing; and in the absence of a knowledge of the amount of silica or alumina contained in it, we would advise "J. M. J." to pin his faith on to barn-yard manure as his main reliance.

A Technological Dictionary.—The greatest trouble one experiences in studying a language other than his own, is with the purely technical words—words that occur in business or the arts. If we think of the varied meanings that the words "stick" and "bar" and such like have, we can appreciate the difficulties which beset one in learning English; and the same trouble attends us in learning French and German. Ordinary dictionaries fail to give us the technical uses of words, and we gladly welcome three small volumes from L. W. Schmidt, 24 Barclay st., entitled "A Technological Pocket Dictionary in the English, German, and French Languages." The title sufficiently explains the scope of the work. The real value of a dictionary can only be learned by use, and we can only say that this appears to be as valuable as its mechanical appearance is neat.

Carbolic Acid in Soap.—"F. N.," New Albany, Ind. The use of carbolic acid in soap is patented. We do not know the proportions, but in using it you would be infringing upon a patent right.

Barberry Hedge.—"F. N.," New Albany, Ind. Procure the seeds in fall, and sow them then, or keep them in sand over winter and sow in spring. Treat them for one year just like cabbages or other seedling plants, by keeping them clear of weeds and thinning where too thick.

Holly-leaved Cherry.—"P. W. M." We trust we have no one in our office so stupid as not to know the difference between the Holly-leaved Cherry and the Holly-leaved Barberry, especially when the one has simple leaves and the other compound ones; besides, the structure of the flowers is entirely different in the two.

Sweet-Corn Suckering.—We have reports that one and another variety of sweet corn suckers badly in different parts of the country. As the same complaint has been made of different kinds of field corn, we are inclined to think that soil and climate affect the suckering. The only remedy we can suggest, is to grow those kinds in each particular locality that seem best adapted to it. Corn, whether sweet or field, is very readily modified by locality, and any one can by a little care in selection obtain what the gardeners call a "strain" suited to his wants.

Colorado Potato-Bug.—Many inquirers. We must repeat, that if the bugs are too abundant for hand-picking, the only resort is the deadly poison, Paris green. Mix this with from twelve to twenty parts of flour, and sift from a perforated tin box, or one with a gauze cover, over the vines, while the dew is on. Keep the stuff away from children, and do not inhale the dust in using. If you must use it, keep in mind its virulently poisonous character.

Yeast Powders.—The immense and growing consumption of the various substitutes for the old-fashioned saleratus we believe to be favorable to the health of the community. These mixtures are, in the main, carefully compounded, so that there shall be no preponderance of either acid or alkali, thus forming in the bread only a harmless, neutral salt. We have used, with much satisfaction, the preparation manufactured by Messrs. Dooley & Brother, and sold by them very largely throughout the country.

Grape Cuttings.—"J. B. S.," Madison, Neb. You can do nothing about grape cuttings until the leaves fall. Then when you trim your vines make cuttings of two buds or eyes each, tie them in convenient bundles, and bury them in sand in the cellar, or out of doors in a place where water does not settle. In spring set in rows, putting the cuttings six inches apart, and one bud at the surface, taking care to get them right side up; press the soil well to the bottom of the cuttings, and give the bed a mulch of leaves or litter. Most grapes will grow, treated in this way, but some varieties require a propagating-house. These you can raise from layers.

"The Garden."—Mr. Robinson's paper, the establishment of which we announced at the time, continues its career with every appearance of prosperity. It differs in many respects from other English horticultural journals, and would probably best suit those of our readers who wish to keep the run of British horticulture. We are glad to notice that the editor finds frequent occasion to quote from our columns, and to transfer our engravings. He always gives credit in the most courteous manner, and is most heartily welcome.

Mezquit or Muskeet Grass.—J. A. Reagan, M.D., Buncombe Co., N. C., asks about the value of "Muskeet Grass," its cultivation, and where seed can be procured.—This is one of several queries of the same purport. In a pretty extended tour in Texas, some years ago, we found that several grasses were called Mezquit, and we do not know of any particular one which can be designated as *the Mezquit*. It may be that some of our Texan readers can help our correspondent. We should be glad to get from our friends in different parts of Texas specimens (*in flower*) of the grass known in their localities as Mezquit. Even so intelligent an observer as the late Mr. Affleck sent us the Buffalo grass as what he considered the true Mezquit.

Fruit Trees.—A correspondent at Bealton, Va., writes: "Can you tell me how to make my fruit trees grow down, or heavier in the body of the tree? I have 400 apple-trees, and as a general thing they are too light in the body."—Unless the trees are crowded, we do not see why they should be "too light in the body." An apple-tree that has room to develop itself properly, will naturally keep a proper proportion between the trunk and head.

Night-Soil for Fruit Trees.—"Inquirer," Brunswick, Me., asks if night-soil is good dressing for apple-trees, young or old, and if so, best way of application.—We would use night-soil for corn and other quick-growing crops, and apply a compost of stable manure or of muck and lime to the trees.

The Plymouth Pulpit.—Messrs. J. B. Ford & Co., under the title above given, publish a sermon of Henry Ward Beecher each week. They now send us the fifth and sixth series, bound in two handsome volumes, and including the sermons of a part of 1870 and the whole of 1871. Mr. Beecher is a full-hearted, manly, hopeful man, and thoroughly impresses these characteristics upon his sermons. We can not conceive that one, whatever his "denomination," or even if of no particular faith, can read these sermons without feeling refreshed. There is something in them to meet every phase of life, and every mood and temperament. Though the writer is not of the Plymouth pastor's "denomination," he would no sooner be deprived of his Beecher than our regular readers would be of their *Agriculturist*.

Garden and Lawn Weed.—"F. S.," Rothsville, Pa. Your weed is the Low or Running Mallows, *Malva rotundifolia*. Children eat the slimy, unripe fruit-capsules, and call them "cheeses." There is no better mode of getting rid of it than the one you suggest—"pulling and digging it out by the roots." There are no specifics for destroying weeds and leaving useful plants unharmed.

The Babcock Fire-Extinguisher.—A bucket of water at the right moment is of more use in checking a conflagration than a whole fire department would be a few moments later. The Babcock Fire-Extinguisher claims to have at hand a liquid more efficacious in extinguishing fire than simple water, and with a self-generating force to throw the stream where it is needed. As we understand the apparatus, it is upon the principle of a soda-fountain. By the turn of a screw a quantity of acid is emptied into a solution of alkaline carbonate, thus generating a force sufficient to propel the liquid, and the solution, being highly charged with carbonic acid, is more effective than the same amount of water. The apparatus seems to be constructed upon correct principles, and there is abundant evidence as to its utility.

Chicken Cholera.—"J. H. D.," Perry Co., Ill., says that he never knew assafœtida to fail in curing chicken cholera. He uses a piece of the drug the size of a marble to two quarts of corn-meal mixed with water. We suppose that he first dissolves the assafœtida in water, though he does not say so. The drug is not really soluble, but if soaked in water can be rubbed up into a milky mixture.

Curious Corn.—"Bermudian Subscriber" will accept our thanks for specimens of abnormal corn. Such malformations are not very rare, had people eyes to notice them. One of yours is different from any we have seen, and with some others that we have on hand will serve to illustrate an article on the structure of corn that we hope to write when the weather is less tropical. We are always glad to hear from our Bermudian friends.

Akebia—Kalmias from Seed.—"Mrs. L. E. D.," Ohio.—We have no trouble with Akebia, treating it as we would any other hardy climber. In the last very severe winter some of the younger twigs were killed. The seeds of Kalmia are so small, and the young plants so delicate, that it requires an experienced cultivator to succeed with them. The trouble with the Abronia and other seeds named is probably due to the fact that they were not sown as soon as ripe. It is fatal to many seeds to keep them over winter. We never succeeded with *Abronia fragrans*.

A Locust-stung Orchard.—"J. R. E.," California, Ky. The "stinging" is mainly due to the incisions made by the female for the purpose of depositing her eggs. The wounds, as well as the presence of a foreign body, the eggs, of course injure young trees. When the trouble "extends nearly to the ground," it will be cheaper to replace the trees with new ones. When the branches only are injured, we should cut off and burn the perforated portions. Probably before another visitation your trees will get so large as not to be seriously damaged. When the locusts once come there is no known help.

Bee Notes for August.—*By M. Quinby.*

Any diseased stocks that have been neglected should be driven now. What little they may do will come good another year. In sections where buckwheat is abundant, boxes should be put on with reference to it. Remove all boxes containing clover honey, to prevent their being discolored by that from buckwheat. As honey grows scarce, a weak stock will sometimes take every particle of honey from a box that they may have partly filled, while strong swarms may be gradually filling boxes. To secure honey from swarms disposed to remove it from the boxes, will require close watching. Honey in these boxes is nice for the table, and it might not be safe to put the boxes on another hive for filling, the supply of honey being limited. Any swarm coming out now, should be returned to the hive from which it issued, after taking away the queen; or the half, with the queen, might be given to some queenless stock, and the remainder returned to the old hive. Surplus honey that has been taken off, should be watched for worms. Should there be any indications of the presence of worms, the boxes should be put in a close box and smoked with brimstone, care being taken not to have the fumes so strong as to discolor the combs. Keep good watch of weak colonies. If such are in movable frames, they may be given a comb or two of sealed brood from stronger ones. Queenless colonies, if in box-hives, may be broken up, and contents secured, unless in sections where buckwheat is plenty, when it pays sometimes to give them a queen, thereby gaining a few combs for another year.

If it is desired to rear Italian queens late in the fall, when native drones are gone, measures to secure the Italian drones at that time should be attended to now. A strong Italian stock that is getting honey should be well provided with drone combs, that they may be filled with drone brood. Or, if they do not raise drones, for want of honey, it will be necessary to save what they have already. No drones are reared for the season, after this month. A queenless hive, or at least one without a laying queen, will preserve their drones best. Remove the queen until about October. She may be given for the time to some nucleus, or some other colony.

Another Jersey Cow.—Mr. Andrew Robeson, of Tiverton, R. I., has an imported Jersey cow which dropped her first calf April 1st, 1871 (when she was less than twenty-eight months old). From April 11th to January 6th, when she was dried for calving, she gave of milk 6,023 lbs. She dropped her second calf February 8th, 1872, and from February 12th to March 30th, both inclusive, she gave 1,339 lbs. Total for the year, 7,362 lbs. Of the 365 days she was dry 33 days, and her milk was not used for 14 days. During the 319 days when the milk was weighed she gave a daily average of 20 lbs. per day. We cite this case rather because it is a carefully recorded one than because of the amount of milk given, but, at the same time, the cow must be commended as a very good one indeed, and a good representative of her valuable race.

The Value of Night-Soil.

From a German work, on "The Employment of Human Excreta and Animal Remains in Agriculture," by Wilhelm Hahn, we extract the following statement of the value to the farmer of a manure that is now almost entirely wasted in every part of our country. According to these tables, the human excrement of our population of 40,000,000 is equal, in respect

to its nitrogen, to *one hundred million tons of cattle dung.* This is a statement that needs no comment. We commend it to the careful consideration of all who care for the problems of national prosperity.

Inquiry has shown that a grown person produces daily 2 lbs. of fæces, of which 1¼ lb. is fluid, and ¼ lb. solid.

In every 100 lbs. of urine there are 4⁵/₆ lbs. nitrogenous matter, in the proportion of 100 : 46⁸/₄; so that in 100 lbs. of urine we have about 2¹/₄ lbs. nitrogen.

In 100 lbs. of solid fæces we have 4 ³/₁₀ lbs. nitrogen, so that in the yearly product of a grown person (547 lbs. fluid and 183 lbs. solid fæces) we have:

In the fluid.....12½ lbs. nitrogen.
" solid..... 7½ lbs. "
Or.....19⁸/₆ lbs. nitrogen per annum.

Or, in 100 lbs. of the mixed fæces we have 2⁸/₄ lbs. nitrogen.

So that, in respect to nitrogen, 100 lbs. mixed human fæces are equal to:

417⁸/₄ lbs. horse dung. 753⅓ lbs. cattle dung.
445⅓ lbs. pig dung. 293⅓ lbs. sheep dung.

As compared with the best guano, which contains 13 per cent of nitrogen, the yearly product of a grown person would equal 1½ cwt. of the latter, as regards nitrogen, or 100 lbs. of mixed fæces would equal 34⅓ lbs. of best guano.

In respect to alkalies, 100 lbs. human fæces equal

109 lbs. horse dung, 111 lbs. cow dung,
112 lbs. pig dung, 51 lbs. sheep dung.

In respect to phosphates, 100 lbs. human fæces equal

208 lbs. horse dung, 415 lbs. cow dung,
208 lbs. pig dung, 124 lbs. sheep dung.

In comparing human fæces with that of animals, it would be well to take into consideration the fact that quantities of straw, etc., are mixed therewith. A comparison of human fæces with stable manure will show that 100 lbs. of the former are equal in respect to nitrogen to

550 lbs. horse stable manure, 733 lbs. cow stable manure,
560 lbs. pig " " 400 lbs. sheep " "

In respect to alkalies, to

135 lbs. horse stable manure, 140 lbs. cow stable manure
142 lbs. pig " " 75 lbs. sheep " "

Or, in respect to phosphoric acid, to

330 lbs. horse stable manure, 500 lbs. cow stable manure.
330 lbs. pig " " 250 lbs. sheep " "

As the best guano contains about 12 per cent alkali salts, and an equal quantity of phosphoric acid, 100 lbs. mixed fæces will equal 8 lbs. guano in respect to alkalies, and 5 ⁸/₉ lbs. in respect to phosphoric acid.

Tim Bunker on Underselling the Butcher.

"Twenty-five cents a pound for fresh lamb in Hookertown!" said Seth Twiggs, knocking the ashes from his second pipe, and loading again. With his forefinger fumbling over the bowl and acting as rammer, he continued: "Who'd ever 'ave tho't when he was a boy, that he should live to see sich times! Why, I can remember when my father used to sell the hind quarters of sheep and calves for four cents a pound, and tho't they were pretty well sold at that."

"Mighty hard times to get a livin', now," exclaimed George Washington Tucker.

"It's allers ben hard times, sense I know'd any thing about 'em," chimed in Jake Frink. "What is the difference, whether lamb is five cents a pound or twenty-five, so long as a feller haint got any to sell, and is too blamed poor to buy any! I take it he is outside of lamb, altogether, high or low."

"It is a long time since I have been outside of any," said Tucker slyly.

"You must eat veal," suggested uncle Jotham Sparrowgrass, who came limping up the walk, cane in hand. "Veal is only twenty cents a pound, and half of that for the soup pieces. Soup is wholesome."

"But what is folks gwine to do that haint got the dimes to buy soup pieces—which means bones, I take it?" inquired Benjamin Franklin Jones. "I'm put to 't every week to get enough to pay the butcher's bill, lettin' alone rent. And it'll git to be pretty soon jest as bad here as it is in the old country, where poor folks can't get meat more'n twice a week. It's jest orful now."

"The butchers make about all the money," said Deacon Smith. "I sell a calf for seven dollars, which dresses a hundred pounds. He dresses it in less than half an hour, puts it in his shop, and retails it at an average of fifteen cents a pound, and gets a dollar for the pelt. He gets nine dollars clear for his time in peddling my calf, and at the same time he is selling lamb, beef, chickens, goslings, and other things, and making them pay quite as well."

"That's so," exclaimed Uncle Jotham; "I don't know a butcher within twenty miles of Hookertown, that isn't a prosperous man. There is Brown, over in Shadtown, begun business there twenty-five years ago, so poor that he was hardly worth the clothes he stood in. He borrowed a little money, and begun to butcher and carry meat around on a wheelbarrow. He couldn't afford a horse and wagon. Next year he bought one. Then he bought a piece of land and put up a slaughter-house. Then he bought more land, to put his slaughter-house manure upon, and raised the biggest crops in town. And it has been more meat sold and more land bought every year since, until Brown is as well off as any man in Shadtown. There was Jim Johnson, from the Whiteoaks, so poor that he used to grease the wheels for Kier Frink's coal-cart at a cent a piece, and glad to get the job. He started business at the Ferry, just as the war broke out, buying lambs, calves, etc., of the farmers, and peddling them, until he opened a butcher's shop in the village. Now Johnson is worth twenty thousand dollars, and is doing a business worth three thousand dollars a year. Any man with a decent character makes money as a butcher in our villages."

"Wall, what ye gwine to du about it?" asked Jake Frink, philosophically. "It stands tu reason that they'll buy cheap jist as long as folks is fools enough to sell so, and they'll sell dear jist as long as folks will buy of 'em."

"Undersell 'em," I suggested.

"That won't du hardly," said Seth Twiggs, puffing away at his pipe; "ye see we've got two butchers in Hookertown, and I've noticed that meat is a plaguey sight dearer than when we only had one. Now ye see, if we bring in another butcher to undersell 'em, they'll jist buy up this third man, and fix prices to suit themselves. Another family has got to be supported in Hookertown by selling meat, and those who eat meat have got to foot the bills. You don't catch butchers doing business at their own expense." There was a puff of smoke at this last sentence by way of emphasis.

"Suppose farmers undersell the butchers," I suggested.

"That will do," said Deacon Smith. "As near as I can calculate, our butcher just about doubles his money on every calf and lamb he buys. If he gives seven dollars for a calf, he gets, for his time in dressing and selling, seven more, and while he is doing this he is doing the same thing by the other meats in his stall. He might do this at much less profit and still do a thriving business. If his meat costs him ten, and he sells at twenty, I, who raise the meat, can sell at fifteen, and still do quite as good a business as I am doing on the farm. If I was a large farmer, raising calves and lambs by the hundred, instead of by the score, I might not be able to do this. It might be better for me to sell in the lump at a less price. But I only do a small business, like most Connecticut farmers, and I have time to speculate a little and attend to anything outside of my regular business that promises to pay well. It won't interfere with my day's work to dress a calf or lamb at evening, and send it round to my neighbors next morning. If I have two or more to dress, I have only to take them with me to Shadtown when I go to mill, and I dispose of them at the store without any loss of time. I have to go to mill every two or three weeks, and I almost always manage to take something to market at the same time—eggs, poultry, lamb, veal, or beef. At the end of the year I have sold fifty lambs or more, and a dozen calves, and all my poultry, and have had the advantage of retail prices, which is, at least, twenty-five per cent better than the butchers would have given me. People get their meats cheaper, and nobody has any cause to grumble. It makes about four hundred dollars difference in the yearly receipts of my farm, and that comes to a good deal in the run of a lifetime."

"Butcher Clark does grumble though," said Jake Frink, "and says if it wern't for Deacon Smith, Tim Bunker, and a few more old skinflints, he could make some money."

You see the drift of things up here in Hookertown from this talk of my neighbors. The high price of meats is under discussion, and how to get them cheaper. Farmers sell cheap enough, and it does seem as if some way ought to be contrived to prevent the doubling of prices before the meat gets to the consumers. Some of us send dressed calves to New York and get returns at six and seven cents a pound, when such meats are quoted wholesale at eleven to twelve cents, and are sold to the consumer at an average of twenty. I guess Deacon Smith has got hold of the root of the matter, and farmers must kill their own animals and peddle more. It will cultivate the spirit of trade a good deal more, and that is what is needed to wake up the farming population. Full one half of the success of farming depends upon selling well. Farm products are not well sold when the farmer does not get three fourths of what they cost the consumer. I have noticed that these trading farmers always get ahead and increase their lands and flocks wonderfully. There was Giles Bailey, on Sweet Briar Hill, as rough a region as can be found in New England, who followed meat peddling until he was eighty years old. He appeared regularly in Hookertown on Tuesday morning, after a ride of a dozen miles, with his load of home-dressed lamb, veal, poultry, or whatever he had to sell, and was generally known as Tuesday Bailey. He always kept first-rate meats, dressed them neatly, and undersold the butchers, who never quite forgave him. He became one of the largest landholders and richest men in his town long before he died. Underselling the butchers did it.

Hookertown, Ct., June 15, 1872. Yours to command. TIMOTHY BUNKER, Esq.

Digging and Storing Early Potatoes.

We know a large potato-grower in Western New York who dug ten or a dozen acres of Early Rose potatoes last year in August. He was offered forty cents a bushel for them at the time, but thinking they would be higher he pitted them in the field. He apprehended no danger, and it was only for some casual reason that he opened one of the heaps, when he was surprised to find it so hot that he could scarcely bear his hand in it. Had they been left a few days longer every potato would have been spoiled. As it was, he immediately drew them into his barns and basement cellar, and was glad to take the first offer he could get for them.

Early potatoes should be barreled and marketed as soon as they are dug, or else they should be placed in thin layers or small heaps in a barn or cellar, and turned over occasionally if there are any signs of heating. If this can not be done, it is better to leave them in the ground until cool weather sets in. In the case we have alluded to, the farmer dug them because he wanted to sow the land to winter-wheat. The expense of handling potatoes is so great, that, as a rule, those farmers make the most profit, especially in the case of early potatoes, who ship them directly from the field.

Shad-Planting in the Mississippi Valley.

EDITORIAL CORRESPONDENCE.

DENVER, COL., July 8th, 1872.

Connecticut River shad were planted in the South Platte yesterday, after a five-days passage from the hatching-boxes at Hadley Falls, Mass. This brief item of news will be read with more interest a few years hence when the shad has taken possession of the Platte and the streams below, and fishing stations are as numerous upon their banks as they now are upon the Hudson and the Connecticut. We all know that the shad could be eaten here in the fresh state, brought over the plains packed in ice, and served up at the tables of the rich as a rare and costly delicacy. But can the *Alosa præstabilis* of our Atlantic streams be transplanted to the valleys of the Ohio, the Missouri, and the Mississippi, and become as plenty and cheap as they are in their native streams? Can the sons of the East take along with them their fish as they do their cattle, and make them a source of pleasure and profit in their new homes? These questions, discussed by fish culturists for a few years back with great interest, got into Congress at the close of the session, and a small appropriation was made to test the practicability of planting shad west of the Alleghanies, and of transferring some of the varieties of the Salmon that swarm in the rivers of the Pacific to the streams of our Atlantic coast. The appropriation was put in the hands of Prof. Spencer F. Baird, United States Fish Commissioner, who acted with great promptness in the matter of shad-planting. We took interest enough in the *Agriculturist* families of the great West to take a share in the work of distribution. Seth Green was at the close of the shad-hatching season upon the Hudson, and started with 25,000 fry for the Mississippi, near St. Paul, Minn. We left Hadley Falls at six o'clock A.M., July 2d, with 2,000,000 shad fry, just taken from the hatching-boxes in the river. The season is several days later than last year, but the parent shad are more numerous, and Mr. Smith, who has charge of the hatching, informed us that they were larger than he had seen in late years. Seven-pound fish were not uncommon in the hauls he made for spawners. We had nine eight-gallon tin cans for the fry, supplied with Connecticut River water, and an extra can of ice to keep the water of proper temperature. The shad has a much more delicate organization than the Salmonidæ, and the range of temperature within which the ova will hatch and the fry will live is much more limited. We have not determined these limits very accurately, but the few essays that have been made at transplanting shad show very clearly that the temperature must not be much above 80° nor under 60°. The weather was very much against us, a sultry July morning with the thermometer at 84°, and by noon reaching 96° in the cars. We got a change of water at Albany from a city hydrant, which proved to be good. Frequent partial changes were made at the railway stations during the day and night. We reached Salamanca, on the Erie road, on the morning of July 3d, and put 400,000 fry, in good condition, into the Alleghany, one of the large feeders of the Ohio. The stock was made very large here, as it must necessarily supply the whole river.

Another very hot day, with about the same range of thermometer. With careful watching we got through with our charge safely, and put about 400,000 fry into the White River at Indianapolis on the morning of July 4th. We had now but one can of fish left, much reduced in numbers by the journey, but still lively and in good condition. We determined to make an experimental trip to this point to test the practicability of stocking rivers remotest from the sources of supply. If they could be transported a five-days journey, and the last half of the way over a region affording no suitable water for them, there would be no insurmountable difficulty in supplying every stream in the land. The weather favored us for the last three days, so that the consumption of ice was small, and the frequent change of water less necessary. We reached Denver about 10 A.M., July 7th, five days and five hours from Hadley Falls, and planted about 2,000 fry in Platte River. They seemed to be at home in the new waters, and at once headed up stream. We found no good water for the fry west of the Mississippi, except at Wilson's Station on the Kansas Pacific road.

Of course the planting of shad in these streams is an experiment. However men may differ about the probabilities of success, all will agree that success is exceedingly desirable. The principal objections urged against the stocking of the streams are the extreme length of the rivers and the large amount of sediment in the waters. But some of the shad streams are six or seven hundred miles long, and if the fish will go this distance to seek a spawning-bed, why would not the instinct of propagation carry it still farther, if it were necessary? Some twenty years ago Dr. Daniels, of Georgia, carried a few shad spawn from the head-waters of the Savannah to those of the Alabama. The shad are now abundant not only in the Alabama, but in the Black Warrior, a large stream which joins it before it reaches the Gulf. These rivers are quite as muddy as the Mississippi and its branches. The probabilities are, that if a stream has clear water of a suitable temperature for spawning, the shad will find it, and deposit their spawn, no matter how remote it may be from the sea. Three years must pass before the results of the present planting can be known and all doubts be solved. W. C.

Why Do not the Eggs Hatch?

I would say in reply to CONNECTICUT (p. 255), that the keeping of fowls in small yards is not a sufficient reason why the eggs do not hatch, and that in this part of the country the same difficulty is complained of by all parties, whether the fowls be thorough-bred or dunghills, either yarded or running at large. I read a large number of the poultry journals, and find the same complaint everywhere. I have talked with many breeders and farmers, and all agree that the experience of this year is different from any previous one, and all complain alike of poor results. The trouble is not caused by small yards, and the fact that the same results are attained, at least in this region, from fowls which run at large, shows that it is not. Moreover, the eggs are not infertile, as he claims. My experience shows that in a large proportion of the eggs the chicks will be partly or fully formed, but for some unaccountable reason they fail to complete the process of incubation. I have in some cases found that fully formed chicks would have the head turned in such a way that they could not pip the shell, and so would fail to come out. One of my hens sat until the twenty-seventh day, and then came off with but one chick. A previous examination had shown but one bad egg, which I removed, and I kept her at it. After she came off, I found the remaining eggs all contained chicks, those partly formed being alive. Other investigating men tell me that they also find few bad eggs, but many that contain unhatched chicks in various stages. We find then that small yards do not cause infertile eggs, and again, that the eggs are not infertile. But why do they not hatch? If "Connecticut" will bring forward his other nineteen reasons, it may be that we shall find the true solution among them; but please let the reasons be based on careful examination into cause and effect, and do not jump at conclusions. I have been giving the matter careful consideration, and am obliged to confess myself apparently no nearer a solution of the problem than two months since. OHIO.

Ogden Farm Papers.—No. 31.

A neighbor, who is a very good farmer, accosted me recently on the subject of transplanting beets, saying, "I agree with a good deal that you write, but not with all," etc. I told him that the last thing I expect from any man who has brains of his own is that he should agree with me in everything. "Opinions differ," and when I find a man who accepts all the opinions of another I set him down as of small account. It is much more satisfactory to have the partial assent of one who does his own thinking than the entire assent of one who lets me do his thinking for him. The most good that any agricultural writer can do, is to set his readers a-thinking. No matter that they agree or disagree with what is written, the one thing needed, or the most important thing, is that they be stimulated to harness their brains in with their farm teams, and do their work with a fuller consciousness of its real character. It is, of course, important and interesting to a farmer to be told how to do this or that sort of work, but it is far more important that he be made to realize that all his work is founded on a rational basis—on "science," if this much-hated word may be allowed—and everything connected with it will become daily more and more inter-

esting if he once finds that it is *intellectual* work. Consequently, even though we were to tell our readers seriously that the grass of their fields is made of the sunbeams which dance upon the meadow, we should do them some good. They would soon find out that we were wrong, of course, but in hunting for proof of our error they would bring into play a spirit of investigation that would lead them to inquire what it really is made of, and they would not stop thinking about it until they had learned some important facts which would make farming for evermore a very different sort of occupation for them from what it thus far had been. I hope we do some good to those who believe we are right, but I am sure we do more good to those who try in earnest to prove us wrong.

Speaking of the composition of grass, I am reminded that it is a very long time since I have seen in an agricultural paper any statement of the fundamental principles of the science of agriculture, which had such a fascination for me in the early days of my study, and that these papers may have some readers to whom they will even now be a revelation. To all, they have an importance that will justify their restatement.

The object of farming is to convert air and water and earth into the materials on which the world depends for food and for the comforts and luxuries of life—to turn matter from a useless to a useful form. The agent through which we work is the laws of vegetable and animal life and growth. Nature furnishes the conditions for the constant operation of these laws; our office is so to influence their action as to cause them to produce the particular kind of growth that is best suited to our ends. The composition of all of the common plants is about the same: a little earth, more water, and a good deal of air. If we first dry and then burn a ton (2,000 lbs.) of meadow grass, cut when in bloom, we shall find that it contains about 1,400 lbs. of water and 46 lbs. of ash or earthy matter. The remaining 554 lbs. is combustible solid matter. It is the business of the farmer to cause these raw materials to come together in such a way as to produce the grass. The ash comes from the soil. It consists (approximately) of potash, 12 lbs.; soda, $3\frac{9}{10}$ lbs.; magnesia, $2\frac{3}{10}$ lbs.; lime, $5\frac{4}{10}$ lbs.; phosphoric acid, 3 lbs.; sulphuric acid, $2\frac{4}{10}$ lbs.; silica (or sand), $13\frac{9}{10}$ lbs.; chlorine, $3\frac{9}{10}$ lbs.; and sulphur $1\frac{1}{10}$ lbs. Just about this, and nothing more, the soil *must* contribute of its mineral matter toward the ton of grass. Some of the ingredients named may vary in quantity, and some may supplant each other, but for the illustration the list given will suffice. The quantities are small, but they are to the last degree important. Any soil that can not furnish the little that is needed must receive an artificial supply before it can produce its crop.

The 554 lbs. of combustible solid matter consist of carbon (charcoal), oxygen and hydrogen (the constituents of water), *and nitrogen*—of this latter about 10 lbs. The carbon is taken entirely from carbonic acid—a gas of which the atmosphere always contains an ample store—and the oxygen and hydrogen are abundantly supplied by the water of the sap; but the nitrogen can be furnished only by some product of organic decomposition, either already existing in the soil, or brought to it in the impurities of rain-water, or in manure. As in the case of the ash of the plant, it must be supplied by the soil. If it does not already exist there, it must be added before the soil can be fertile, and if the soil becomes exhausted of it, it must be added—naturally or artificially—before fertility can be restored. Man has to concern himself chiefly with about 10 lbs. of nitrogen, 3 lbs. of phosphoric acid, and 15 lbs. of potash and soda (the other elements of the ash are abundantly present in all tolerable soils). *Given these twenty-eight pounds of matter, nature*—properly guided—*produces two thousand pounds of grass.*

The *proper guidance* is the farmer's affair. So is the supply and guarding of the all-important twenty-eight pounds. Concerning all the rest—the 1,972 lbs.—he can only exercise a fostering care. The mass of material in the soil, the water that moistens its pores, and the winds that sweep its surface, supply it all. To prepare the land for the best action of the wonderful alchemy of growth; to sow the proper seed; to keep down the competition of other plants; to supply the needed nitrogen and alkalies and acids; and to stimulate in every way in his power the favorable action of natural influences—these are the duty of the farmer. It seems a short story, but it holds the kernel of practical farming, which is only a slight aiding and a very constant and careful guiding of the impulse that is born of sunshine, moisture, air, and a fertile soil. Whether we turn the elements into grass, or the grass into flesh, we are handling tools whose use should ennoble us, as what they perform enriches us.

Does all this sound a little hifalutin? Possibly it does; and where's the harm? There is enough in our lives that is humdrum, and stupid, and dull, to make a flight of the fancy, now and then, a relief and a delight. No man will be a worse farmer because he knows something of the principles on which his farming depends, and if he will look oftener to the inner side of the picture—to the silver lining of his cloud—he will see that his occupation comprises more than he now believes of that which he envies in others.

To return to my neighbor and his beets. We talked for some time and failed to convince each other. He claims that he can clean and thin an acre with three days' labor. (If he can, his land is cleaner than mine.) I claim that the land would be benefited by repeated harrowings during all of May and June, and that my man, with a boy to drop, can set out an acre in two days. (He says if he can he is a smarter man than he can hire.) And so we separated—he taking some of my plants to set out in his field, to see how the two will compare in their subsequent growth. His are long, red mangolds, and mine are Lane's sugar-beets, but I hope to make at least half a convert of him, nevertheless, for I think it helps the growth of a beet to nip off the end of its tap-root and make it throw out more fibers.

I wrote in my last of the field I had bejuggled with too deep plowing; this season has shown that it is not beyond the help of manure. Last year, Mr. Hand sent me a bag of "Phosphatic Blood Guano" for an experiment with cabbages. I planted four rows across the field in question, and had a passable result. It was a close race between good manure and poor land. I thought the land was a little ahead. This year that side of the field is in oats for soiling, but they hardly soil the ground. After two months' trial they have reached a brown eminence of perhaps four inches. Where the four rows of cabbages stood, there is a thick and luxuriant growth of oats, now ready for the scythe. Another part of the field was last year very heavily manured for beets with stable-manure, and that, too, is covered with a very good growth of oats. I think I have found out what will at last cure the disease, or, rather, I think the disease has been so far cured by time, that I can now commence to build up the patient's constitution by the aid of stimulants; and now follow the interesting questions whether the turning under of the surface soil to so great a depth is going to make the land more permanently fertile, and whether the subsoil which has been brought to the top will finally—when it becomes well mellowed and well manured—have some of the productive power of a virgin soil. I think a favorable answer will eventually be given to both of these questions, but it has been a tedious and an expensive experiment, and however good the land may become, its improvement will have cost more than it is worth. One half the cost in fallows and top-dressings would have had a better effect.

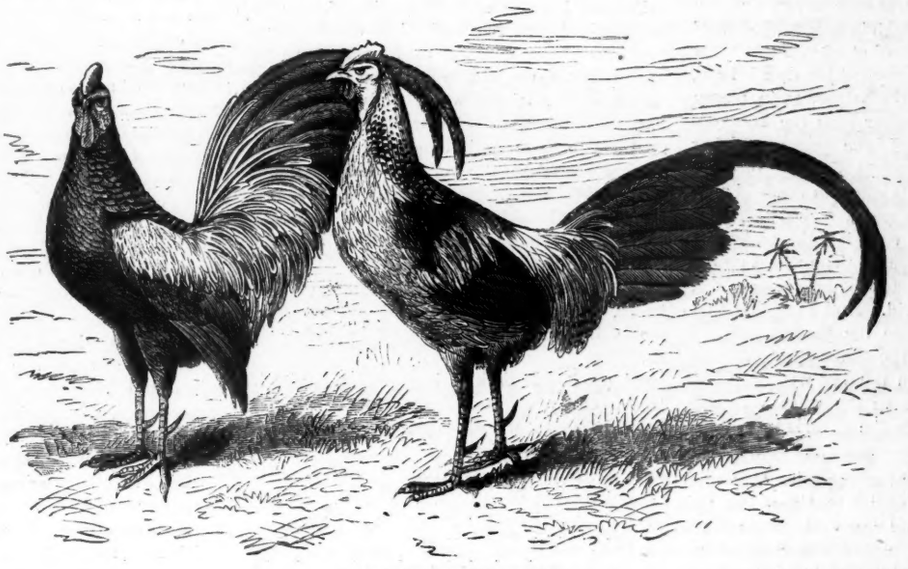
The Dairy is thriving. We are now making about 150 pounds of butter per week—fully 600 pounds per month—from 27 animals, old and young, big and little, sick and well, good, bad, and indifferent. This is very well for a breeding herd, in which no pains are taken to have the cows come in with reference to the flush of feed. Our main object is to turn out thorough-bred Jersey calves for sale, and we keep the mill going as fast as the health of the cows will allow. The result is that calves are dropped at all seasons, and there is no "flush time" with us in June, as with most farmers. Neither are we in the flush of feed; that comes with us in September, when the fodder corn is in blossom. Just one quarter of the herd consists of two-year-old heifers with their first calves, and about another quarter of animals that are nearly dry, or that for one reason or another are giving but little milk—some nearly dry, and some very old. I don't brag about the quantity, but I am, on the whole, quite well satisfied with it. If I have a touch of vanity, it is stimulated by the *quality* and *uniformity* of the butter. It has never been more easily made, and never better; and the advantage of the deep-can system was never better demonstrated. I am sure that any dairyman who makes even 50 pounds of butter per week, would be more than satisfied with his investment if he would rearrange his milk-room so as to set his milk in deep cans, even if he had to use a windmill, as we do, to get a supply of fresh cool water to set them in.

There is one exception to the above statement about the time of having the cows come in. We try to have all our yearlings—say all heifers dropped before October—served by the bull in time to calve not earlier than April 15th, and not later than June 15th, of their second year, so that their first secretion of milk may be stimulated (and their milking habits formed) by the tender grass of May and June.

We find it advantageous—having a pasture farm for our young stock—to turn the cows out in the daytime during the month of June, so that as much as possible of the men's time may be given to the crowding work of that month, and so that we may save for hay as much as possible of the grass on which we would have to depend for soiling until the oats are ready. With this exception we stick to soiling, and like it.

Asiatic Fowls.

Were the "poultry fever" at the hight it attained not long ago, Mr. Conklin, the obliging gentleman in charge of the animals at Central Park, would no doubt be besieged for eggs of the Asiatic fowls he has in his collection. Mr. Forbes, the artist, has taken the portraits of these fowls as they appear in the aviary at the Park, and it will be seen that they do not appear essentially different from some breeds of game fowls. Those who have most carefully investigated the origin of our breeds of domestic fowls all come to the conclusion that their parent is the Asiatic fowl, the *Gallus Bankiva*. It hardly seems possible that the minute and pompous Bantam should have the same origin with the portly and leisurely Brahma, but as different investigators have arrived at the same determination, we accept it as a fact in natural history, and until testimony can be brought to show to the contrary we must admit that all, from the half-domesticated Leghorn to the dumpy Cochin, are from one original species. When we ask an old poultry-fancier, who has run through all the breeds, "What is the best fowl, all things considered?" he is quite sure to say the Game, as the best for the table, and the best in the long run for eggs. It is the close relationship to the wild fowl that has made the breed of Leghorns so popular.



A PAIR OF ASIATIC FOWLS.

Of course, it is not possible to trace the origin of our now popular breeds. Domestic fowls were kept before the commencement of the Christian era. The Romans at that historical epoch had six or seven named breeds, and paid as much attention to "toes" and "ears" as our breeders now do. It is a curious fact that in many savage countries, insular as well as continental, domestic fowls are kept, and even distinct breeds are known. While the fowls here figured are much like our Game birds, other specimens from Asia, also claiming to be native fowls, were very heavy, and more like the Cochins in their style and build. We have no doubt that a cross of either of these native birds upon our refined breeds would be attended with good results, as it would introduce new and vigorous blood into our yards. Those who would like to know the evidence brought forward to support the statement that our domestic fowls are from one species, are referred to that remarkable work, "Darwin's Animals and Plants under Domestication." It is Mr. Darwin's belief that all our breeds "have diverged by independent and different roads from a single type," and he gives the characters and illustrations of several of the most distinct breeds.

African Sheep.

There are, or were a short time ago, in the collection at Central Park some "African sheep." Our artist has taken their portraits, and it will be seen that they are as unlike our ideas of a fine sheep as a Western "landpike" is unlike a thorough-bred Berkshire or Essex. Animals of this kind are always interesting and instructive. These specimens are undoubtedly sheep, but how different from the South-Downs that are grazing upon the broad lawns of the Park! The origin of our domestic breeds of sheep is very obscure. While some claim that they originated from six or more wild species, others regard them as having all descended from one. Where animals, as is the case of the sheep, have been under domestication from the earliest times, to trace their origin becomes almost an impossibility. There is good reason to believe that sheep were kept as domestic animals even in prehistoric times, as the remains of a peculiar breed have been found in the Swiss lake-dwellings. No domestic animal is more readily modified by local influences than the sheep. This is shown by the production of particular grades of wool in the different sheep-growing districts of England, but in a more marked manner by the changes wrought upon sheep that are taken to peculiar climates. Thus, in certain countries, the sheep take on a remarkable development of tail, in others the horns attain an enormous size, and in others again the wool ceases to be wool, but becomes a coarse hair like that of the goat. The fat-tailed sheep have been often described; in these the tail takes on such an unusual enlargement, and becomes so loaded with fat, that it is regarded as a great luxury, and a truck is provided for its support, which is dragged about by the animal. In other countries this deposit of fat is not made in the tail, but it accumulates in two large masses upon the rump, while the tail itself remains in a rudimentary state. In an Angola variety of sheep there is a great accumulation of fat upon the back of the head and beneath the jaws. Besides these peculiarities of taking on fat upon different parts of the body, there is the greatest possible variety in the horns. One writer states that there is a constant relation between the wool and the horns of the various breeds of sheep; that long and smooth wool is accompanied by long and smooth horns, and that breeds which bear close and curled wool have corrugated and twisted horns. To the breeder as well as to the naturalist every unusual form of domesticated animal is of interest, and these curious lank sheep will no doubt be more attractive to the wool-

AFRICAN SHEEP AT CENTRAL PARK, N. Y.

grower who visits the Park than the well-fed and well-known South-Down.

Walks and Talks on the Farm.—No. 104.

At this date, June 18th, my wheat is better than the Deacon's. All admit that the harrowing did it good. It broke the crust, and freshened up the soil, and made a splendid seed-bed for the clover. The ground was very dry, but there was moisture enough in the freshly-stirred soil to start the clover-seed at once. I never saw a better catch. I do not say, neither do I believe, that the harrowing is the only or main reason why my wheat looks better than the Deacon's in the adjoining field. I have spent more labor on it, and gave it a slight dressing of dried blood. I think there is wheat in the field that will go over 40 bushels per acre, but there are other parts where the crop is light, and these will pull down the average. The wheat on the clay land, where I expected the heaviest growth, is the poorest in the field. And I imagine that this is generally the case the present year. I suppose it is owing to the severe spring drouth. We had a glorious rain the last week in May, but it was too late to save the wheat. In this section—and I presume the same is true of the Middle States generally—we shall not have more than two thirds of an average crop. There are thousands of acres which will barely pay the expense of harvesting. I have just been through one of the finest wheat-growing sections in Monroe County, and did not see one really good field of wheat. This is not the fault of our system of agriculture, for while it is emphatically true that the best farmers have decidedly the best crops, yet even those fields which have received good treatment have many spots where the crop has either failed entirely, or been so weakened by the cold and the drouth that they will yield little more than the seed.

The Deacon and I both sowed our wheat too late last fall. I have generally aimed to sow from the 10th to the 15th of September; and in ordinary years, on good land, this is the best time, but this season, as a rule, the early sown wheat is the best. And *drilled wheat is very decidedly better than that sown broadcast.* I have never been an enthusiastic advocate of drilling. I have seen wheat that was sown broadcast just as good as that sown with a drill. But few will claim that broadcast wheat is ever *better* than drilled. And so, if every few years we have a season in which drilled wheat is decidedly the best, and never one in which it is worse, it would seem to be the part of wisdom to always drill in the wheat.

John Johnston writes me from Seneca Co., which is one of the best wheat-growing counties in Western New York: "Wheat is bad around here, and I believe over all the winter-wheat-growing sections of the Eastern, Middle, and Western States, as well as in Canada. I have seen 51 crops grown here, but never saw such a failure except in 1836. I am really afraid of a wheat famine."

I do not feel at all alarmed. Wheat will doubtless command a high price before the harvest of 1873. But we need not starve. High prices always check consumption. If wheat is very high, we shall eat less wheat-bread, and more corn-bread, potatoes, and meat. Corn, pork, and potatoes are so abundant that they are now selling far below the cost of production. Cheese, butter, and beef are comparatively low, and fruit of all kinds bids fair to be exceedingly abundant. We shall not starve. But I have said for many months that all the signs pointed to a higher range of prices for our leading agricultural products. I believe such would have been the case even if we had had a favorable season for wheat. But the failure of the wheat crop will undoubtedly hasten the time, and serve to carry prices higher than I had anticipated.

Farmers have seen hard times for a few years past, and a higher range of prices will not hurt us. The lesson that we, as farmers, have to learn is not to be discouraged, but to keep on the even tenor of our ways, studying how to improve our farms, to cheapen the cost of production, to raise such crops and keep such stock as are adapted to our soils and situations, to sell when we can get reasonable prices, and be content with fair profits, and not rush into every new thing that for the time being is bringing an extravagant price.

There is seldom a year when a good, steady-going, enterprising, intelligent farmer who works his land thoroughly and improves his stock has not something to sell that affords a good profit. If pork is low, wool is high; if beef is cheap, wheat is dear. If corn can not be sold for what it costs to produce it, he knows that in a well-ventilated corn-crib it will keep for any length of time. Some years ago I was offered corn in the streets of Bloomington, Ill., for "nine cents, cash, per bushel, and ten cents in trade." In less than two years I was in Illinois again, and asked the price of corn in the same neighborhood, and was answered "one dollar and ten cents a bushel." Of course such fluctuations are demoralizing. But we must make the best of our situation.

"E. W. H.," of Grand Rapids, Mich., writes me that he has a field of eight acres of dark, gravelly soil that he broke up three years ago. Plowed once, cultivated twice; then plowed again, cultivated, and sowed to winter-wheat. Had an average crop, or about 20 bushels per acre. Next spring he covered the field with stable-manure, plowed, and planted with corn. Yield, 40 bushels per acre. The next spring (1871) plowed and sowed oats and seeded with timothy and clover. The season was dry, and the oats a light crop. This spring he top-dressed the field with manure. There was a good stand of timothy and clover, but now (June 2d) the clover and timothy are literally choked out with sorrel. He asks what he had better do.

If I had such a field on my farm I think I should plow it up early in August, cultivate and harrow as often as was necessary to kill weeds, and also with a view to cause as many weed-seeds to germinate as possible. Then in October I would plow it again. The next spring sow it to barley, peas, or oats. Then follow with winter-wheat, and seed with timothy in the fall, at the time the wheat was sown, and with clover in the spring, say twelve pounds red clover and two pounds white Dutch clover. If lime could be obtained at anything like a reasonable price, say from fifteen to twenty cents a bushel, I would put on from 50 to 100 bushels per acre before the wheat was sown, and cultivate and harrow it in. I should do this not because I believe in the old theory that sorrel indicates a sour soil, and that lime is needed to neutralize the acid, but simply because it is a matter of experience that liming land is one of the best means of bringing in good grasses and clover. And if we can get a good crop of grass and clover, especially white clover, the sorrel will be crowded out and disappear.

I have great faith in lime as a manure, even on our limestone soils, and should use it freely if I could get it for twenty cents a bushel, but I can not buy it for less than thirty cents. We must try and get along without it until some one has sense enough to burn lime for agricultural purposes and sell it at a fair price. As long as I can get a good crop of clover I feel pretty sure of getting good grain crops. But when clover begins to fail we shall then have to resort to the use of ashes or kainit to furnish potash, or we shall use lime to render the latent potash and nitrogen in the soil available. On my land at present I have no doubt the latter would be the cheaper method, if I could get lime at twenty cents a bushel, as I need nitrogen rather than potash. But as long as good tillage, or an occasional summer-fallow, with the free use of gypsum, will give us good crops of clover, we can get along without lime.

John S. Bowles, of Hamilton Co., Ohio, thinks that I must live in a very benighted agricultural section, because we plow with double lines, and put the lines back of our shoulders. I dislike the practice as much as he does. But it is of no use to talk to us about single lines and left-hand plows. Neither men nor horses understand the system, and even if we acknowledge all the advantages claimed, which I am not prepared to do, it would take us some years to make the change. "In another number of your 'Walks and Talks,'" he says, "you speak of the Deacon hoeing his corn. If you will come here next fall, I will show you a clean corn-field that has never had a hoe in it the whole season." I have no doubt about it. Neither do I despair of doing the same thing, before many years, on my own farm. Mr. B. raises corn after corn for several years, and by the free use of the cultivator can hardly fail to make his land clean. Mr. B. says he believes "one man and horse with a good cultivator will accomplish as much as four men with hoes." There is no doubt about it. But it seems curious to us to hear so intelligent a man as my correspondent say: "I do not know whether it would be possible to cultivate corn properly without driving *with a single line*, but I doubt it." The truth is, you want a steady horse that will haw and gee promptly as you tell him, and that does not need any lines at all. In such a case two lines do no harm, and may occasionally be useful. I think this is all there is to the question. I once saw a boy take the first prize at a plowing match of the Royal Agricultural Society of England who had no lines on his horses. I do not think that if a pair of rope lines had been hanging by their sides they would have done any harm, and in case the horses had got frightened they might have proved useful. Still, I should be heartily glad to have my horses so well trained that no lines were needed.

Mr. Bowles says he has drained some of his swamp land with tiles, three feet deep, and the underdrains three rods apart, at a cost of $31 per acre, reckoning labor at $1.75 per day of ten hours. "But, in point of fact," he says, "it has not cost me nearly so much. I do it in this manner. I hire my men by the month for six months or a year at a time. I hire at least one more than I would want if I carried on no improvement. Whenever in the spring I have no work for my men to do I set them at under-

draining. When I have plenty of other necessary work I put all the men at it, but if I have a man to spare he goes to the drains. Thus my underdraining is often performed when the men would have nothing else to do. A man too many is very useful. If one gets sick or quits work, his team does not then lie idle. He is also very useful at harvest-time."

This is all very true, and it is the plan I have always advocated. Hiring extra men for a few days to do extra work that *must* be done, no matter what wages the men ask, is a bad practice. It has a demoralizing effect. The extra hands boast of how much they are getting, while they say nothing of how many days they lie idle. It is certain that as a rule the men who engage by the year save the most money. The days when a man is not earning money he is very apt to be spending it.

As a rule, however, ordinary farm hands make very poor ditches. They do not like the work. I have had many ditches cut on the plan practiced by Mr. Bowles, but am satisfied that they have cost me a good deal more than those I had cut by the rod. I am inclined to think that we might adopt both plans. We might hire the men by the season at so much a day, and when there is much ditching to be done let out the work to them by the rod. If they were skillful and industrious they would earn more money, while we should get the work done cheaper. With married men who have boys to help them, there is a good deal of work on the farm that they could take with advantage to themselves and their employers, such as hoeing, pulling beans, digging potatoes, husking corn, etc. In fact, I do not see why the plan might not be extended to nearly all the operations on the farm.

"My swamp land," says Mr. B., "used to grow only smart-weed. The first year after it was underdrained it grew about 35 bushels (68 lbs. of ears) of corn per acre. The next year it grew 80 bushels of corn per acre. The next year (1871) 85 bushels per acre. It is now in corn again." Is not that better than letting it produce smart-weed and fever and ague?

I have harrowed my corn three times with Thomas's Smoothing Harrow. I went over it the first time a few days after the plants made their appearance, and then at intervals of four or five days. We are now (June 18th) cultivating it, and I propose to go over it again in a day or two with the harrow. There are a good many thistles in the field, and it will be necessary to hoe these out of the rows where the cultivator will not reach them. But for this, I would not put a hoe in the field, as there are few things that annoy me more than to see men during this hurrying season wasting their time dressing up a hill of corn with a hoe. I have never yet been able to convince a man that I want him to hoe the weeds. He says and thinks that he is engaged to "hoe the *corn*." And it is curious how tenaciously this idea clings to the mind of even intelligent farm men. The very boys seem to inherit the same tendency. If a hill of corn has missed, it requires a special training to induce the boys to cut out the weeds. If there is not a weed to be seen they will hoe all round the corn, but if there is no corn they will not hoe the land, no matter how many weeds there may be in the hill. Thomas's harrow has certainly killed thousands of weeds, and greatly lessened the necessity for hoeing. In fact, an active man, if he could get rid of the idea that he was hoeing corn, and would merely cut out the weeds, could go over two, three, or four acres a day and do all that was necessary.

So far as my observation extends, there is no branch of farming in which such a marked improvement has taken place during the last twenty years as in the cultivation of corn. The old plan in this section was to run a cultivator through the rows each way, and then hoe. Then in two or three weeks run the cultivator through again both ways, and hill up the corn, and dress off the hills with a hoe. That was all the cultivation it received. Now, our cultivators are not only far more effective implements, but we use them more frequently. Farmers are fully convinced of the advantage of keeping the land constantly stirred and free from weeds. I know of no crop, unless it is cotton, that affords such a splendid opportunity of cleaning land as our magnificent cereal, Indian corn. And I have no little pleasure in witnessing the avidity with which all good farmers avail themselves of this chance to kill the weeds. I have always said that it will not be many years before the best farming in the world will be found on this continent, and the more thorough cultivation of the land while in corn will do much to hasten the time.

My English friend smiles at this remark. He thinks it will be a good many years before our farming will compare favorably with that in Norfolk and Lincolnshire or Scotland. I am well aware that much of our farming at the present time is about as bad as it well can be. I know farms where every well-established principle of agricultural science and practice is daily violated. But the American agricultural press, which is sending its sheets broadcast over the land by the million, has become a prodigious power for good, and is having a mighty influence on the minds of men. Farmers are constitutionally cautious and slow to change. But when they get hold of a good idea they digest it thoroughly and make it their own. By and by you see the effect. All improvements in agriculture are slow. It is often a life-work to bring up a farm to the highest state of cultivation and productiveness. Bearing these facts in mind, and admitting, as I must, that much of our farming is now wretched in the extreme, I can see beneath the surface most cheering indications of great and far-reaching improvement in our general agriculture. Recollect that *we own the land.* We are not tenants liable to be turned off our farms if we express political or religious views different from those of the landlord. If we plant a tree, dig a drain, or get out a stone, we can feel that it is our own land that we are improving. And this thought *does* have an influence. We must look out, however, and not let the great railroad corporations virtually become our landlords. For my part, I have no fear. They oppress us sorely at times, but, on the whole, it must be confessed that the condition and prospects of the American farmer will compare favorably with those of any industrial class in the world.

Let us take a cheerful view of things, and go ahead with our improvements. Farm products will always be in demand, and will, taking one year with another, always bring what they are worth. Our aim must be to produce them as cheaply as possible. And the first thing to be done is to stop growing weeds.

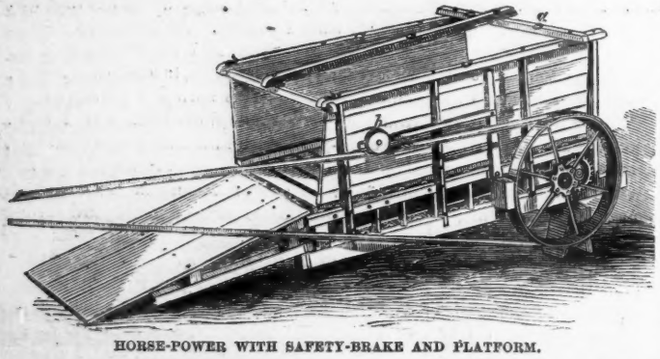
I have said that we are cultivating our corn better. Such is the case. Our cornfields are much cleaner than formerly. But our wheat and spring grain crops are too frequently full of weeds. Such is the case on my own farm, though I am making encouraging headway against them. With rare exceptions, it is generally the case in this section. The Deacon's oats, sown after corn, are a mass of thistles. And the reason of this weedy condition of our spring grain and wheat crops is mainly due to the fact that the great aim of the Deacon and of the majority of farmers is to plant corn in such a way as to "save hoeing." They do not want the weeds to grow. They fail to take advantage of the splendid opportunity which a corn crop affords for killing weeds. The weeds and weed-seeds are lying dormant beneath a tough sod, where the cultivator does not reach them. Next spring the land is plowed, and all these weeds spring up in the oats, barley, or wheat, where we have no chance to kill them. It is a great error. We must either plant corn two years in succession, or we must break up our sod land early the fall previous, and plow it again in the spring before planting the corn. In other words, we must adopt some method of *making the weeds grow* in the corn, where we can get at them with the cultivator. I know I have said the same thing again and again. It is one of my pet ideas. And I am trying to carry it out in my own practice. I have planted my corn this year on land purposely treated in the best way I could think of to make the weeds grow. It looks like rough and slovenly work, but I think I shall have pretty good corn, and I know the land will be cleaner for years to come. I plowed a clover sod last fall with one of Holbrook's side-hill plows. I put on three horses, and turned a furrow twenty inches wide. The plow is designed to break the furrow as much as possible. The land was very dry and hard, and being a two-horse plow the three-horse evener made it run a little wider than it is calculated for. It made rough work, but that was precisely what I wanted. At any rate, I wanted to try the experiment. I plowed part of the field with an ordinary plow, turning over a neat, smooth furrow. This spring I harrowed the land and then cross-plowed it, and I think the rough-plowed land was in the best condition, though owing to the great drouth the sod had not rotted on any of it as much as I expected. If I was going to do it again I would plow earlier, say in August or September, and then cross-plow the last of November in such a way as to let the land lie up rough for the winter. A thorough harrowing in the spring, with the free use of a two-horse cultivator, and then plowing it up just before planting the corn, would give the weeds a good chance to start, and we could then kill them by the million with Thomas's harrow and cultivator. At any rate, until I get my land clean, or unless some one will tell me a better plan, I think I shall adopt this method of growing corn. As soon as my land is clean I shall then probably plant on a freshly-inverted clover sod.

But as long as our farms are as weedy as they are at present, I am satisfied that the plan of "fall-fallowing" which I have advocated is the true plan in this section. We only lose the use of the land for about two months in the fall, and at a season when grass is usually abundant, while the soil is exposed to the ameliorating influences of the atmosphere for a period of about nine months, or say from August to May. The work can be done at odd times when there is little else for the teams to do. You are not obliged to break up the whole field at once, as is the case when you intend to sow a crop. Part may be left in grass, and pastured until

you can find time to go on with the plowing. But the earlier it can be done in the fall the better will be the condition of the land. It is very desirable to cross-plow before winter.

Horse-Powers.

There has been much discussion as to the most economical horse-power. Without entering into the merits of the question in a mechanical sense, which involves many considerations, we would merely say that having tried and used both the lever and the railway power, we believe that for general use the railway power is the simplest and best, and that almost any well-built railway power now made and in use will be found a handy and economical thing to have around the barn. Some of its advantages are that the weather, whatever it may be, need not interfere with its use, that it is always ready, that for light work, as cutting feed or cleaning grain, one horse may be used, and that it is easily moved about. The chief objections to railway powers are, the seeming danger to the horses in case anything gives way, and also the seeming severe work on the team. But both these are more imaginary than real. With a pretty large acquaintance with them, we never had or heard of an accident in their use, and although we confess to feeling a dread of something happening, yet no accident has occurred, and with the precautions we have learned to take there does not seem to be any possibility of it. Perfect safety may be secured by the following methods: Let the horses have all the harness on when they are put in, fasten the breast-chains on to the rings of the harness, and let them pass through the rings on the breast-



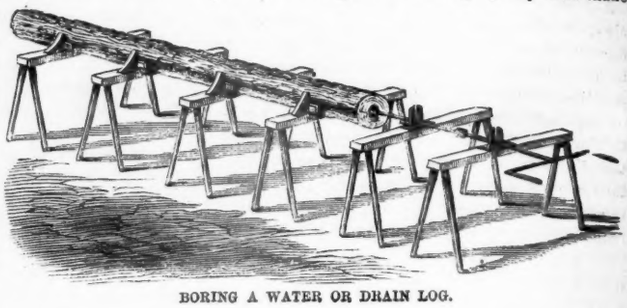
HORSE-POWER WITH SAFETY-BRAKE AND PLATFORM.

bar at *a* in the figure, and straps from the breeching may also pass through the rings on the side. The horses then could not in any case leap out, nor can they back out even if so disposed, and should they under any circumstances whatever endeavor to back out, the platform shown at the rear of the machine will allow them to do so without injury. This platform should be made of two-inch plank, and should be attached to the machine by means of a bolt passed through the sills at the rear of the machine, and shown by dotted lines. It will be found very convenient for the passage of the horses in and out, and in a very short time they may be so trained as to walk up and back out by word of command and without handling. The only real danger consists in the effects of a breakage of the belt or machinery, or the slipping off of the belt. This is provided for effectually by an arrangement of the brake. An arm which carries a pulley is fixed to the arm of the brake-block. The pulley (shown at *b*) rests on the belt, and serves when all is right as a tightener, and prevents the necessity of keeping a dangerous strain on the belt to obviate slipping. Should the belt break or fly off, the pulley drops and brings the brake into immediate action, and the machine can not by any possibility run away. If these precautions are taken, there need be no fear of any accident occurring in the use of these horse-powers, and the chief objections to their use are removed. With reference to the excessive labor of the team, this is quite a gratuitous alarm. The horse walks up an elevation of a foot and a half in ten at the rate of two miles in an hour, or something over that, and thus, carrying no load but merely his own weight up that moderate elevation, if he weighs a thousand pounds, he performs the work of a standard horse-power, and this with greater ease than in any other method we know of.

To Bore Wooden Drains or Water-Logs.

"G. F.," Rochester, Ind., asks how to bore drain-logs eight or ten feet in length. He has a quantity of spruce poles of which he wants to construct water-pipes. For this purpose a frame should be constructed as shown in the figure. It consists of a series of trestles firmly placed on the ground, or they may be connected together by a strip nailed along the ends of the trestles so that they are kept in position. Each trestle has a pair of stakes fixed on the top, between which the logs are placed and keyed fast with wedges. The boring tool is an auger of two or three (or more if necessary) inches in diameter, fixed on to a long iron rod—half-inch or three quarters thick would be sufficiently strong—and at the end of the rod a double-crank handle is welded. This tool rests on trestles furnished with guides to keep it exactly in position during the boring. When the trestles are placed in position and the log keyed fast, the boring tool is then carefully placed in line each way with the center of the log. A line, similar to a carpenter's chalk-line, should be used for this purpose, and it depends on the care with which this is done whether the bore-hole keeps the center of the log or not.

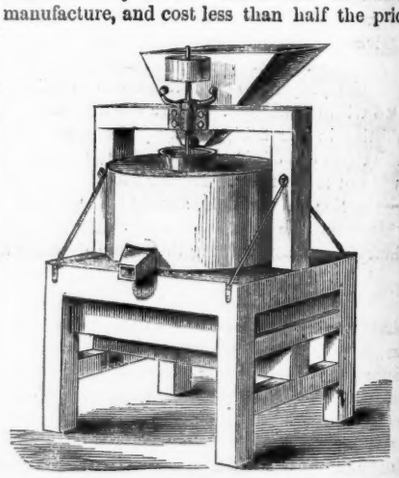
When all is accurately placed, the work is commenced and continued until the middle of the log is reached, when it is turned end for end and bored from the other extremity. This is always advisable, as it very much lessens the risk of the auger running out of line. When the logs are bored, they should be peeled and seasoned before using. An excellent method of doing this is to put them for a few days into a creek or pond, where they will become thoroughly saturated with water, and on drying afterwards for a few weeks they will season rapidly. To fit them together, one end should be brought to a taper, and the other end bored out with a tapering reamer to fit the end of the log which connects with it. In laying the logs, the end of one should be driven into the enlarged bore of the other. A little tar may be used to get a close fit if the pipes are to be used for conveying water; if for drains, the ends may be left loosely connecting, and stones packed around the joint. A coating of hot tar given when the logs are thoroughly dry will make them more durable, and an iron ring driven over the end which receives the point of the connected log will prevent it splitting when it comes to swell in consequence of being saturated with water.



BORING A WATER OR DRAIN LOG.

Farm-Mills.

We have had several inquiries about farm-mills for grinding coarse feed for stock. There are but two kinds of these mills used—viz., those with steel plates to form the grinding surfaces, and those with burr-stones. The former kind does very fair work, but occasionally the plates need replacing, and as soon as they become worn the work is badly done. Such mills are largely advertised in the agricultural papers, and are relatively cheaper than the stones, but they are not so durable, and not easily kept in such good order as the stone mills. The cost for a horse-power steel mill is not far from $50, and one of this price will grind from five to ten bushels per hour. The burr-stone mill will cost about double this amount with all the fittings complete, but one can be got up very much cheaper by purchasing a pair of what are called country stones—which are of native manufacture, and cost less than half the price



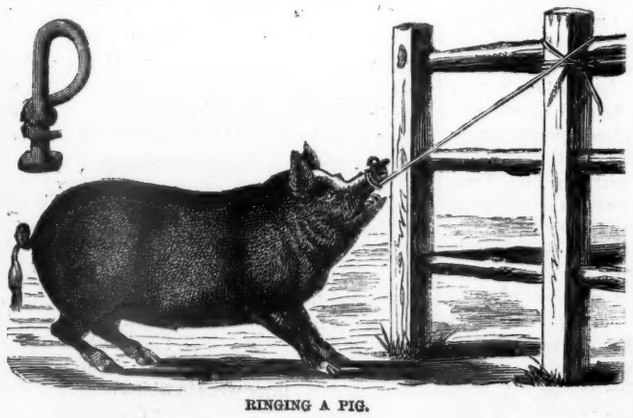
A FARM-MILL.

of French burr—and having them framed and mounted by a country millwright or miller. We give an illustration of such a mill, which we have used very satisfactorily, and which, run by two horses, has chopped fifty bushels of oats and corn in a day with great ease. The stones were country stones, and were hard enough to

grind a thousand bushels without dressing, and cost $20. The frame is a very simple affair, made very stout; the lower stone is stationary, and is bedded on the frame; the upper stone is suspended on the spindle, and is turned by means of the pulley above. A screw on the upper part of the spindle raised and lowered the stone as became necessary. The hopper above fed the grain into the eye of the stone by a shoe and shaker, as in any ordinary mill. A hoop surrounds the upper stone, and the meal is discharged through a spout in front into a box or bag placed to receive it. The economy and convenience of such a mill are very great when one is located at a distance from a miller, and even when this is not the case it is a great convenience to be able to do all the work of the farm at home on days when the weather is not fit for out-door work. The saving made in feeding ground grain is such that where no more than ten head of stock are to be fed it would be profitable to incur the cost of a mill to do the grinding. These mills are very easily kept in order, and the method of dressing the stones is so simple that any one can learn to do it by trying a few times and following directions.

How to Ring a Pig.

There are circumstances in which pigs should not be allowed to root. In fact, when they are not constantly penned up, or where a lot can not be appropriated altogether to their use, it is absolutely necessary to prevent them from rooting. All methods of cutting the snout have with us been unavailing; the wound very rapidly heals, and nature seems to have provided so effectually for the perfection of the rooting implement, that nothing save a ring which acts mechanically prevents its use altogether. The best ring we have used is a horseshoe nail with the point beaten out into a slender wire, which may be passed through a hole made in the snout with a common awl, and twisted two or three



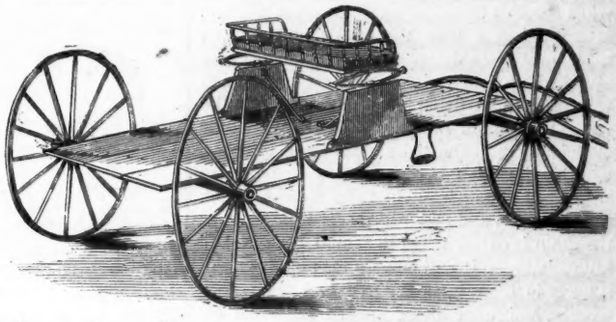
RINGING A PIG.

times around the head of the nail. This stays in place, and offers so much obstruction to the action of the edge of the snout, that the hog can not root while it remains there. It does not operate by any sharp points pressing on the snout painfully, and therefore may be used by the most humane and considerate man without any qualms of conscience.

The main difficulty in ringing a hog is to hold him during the operation. This is done very easily by coaxing him up to a trough, and taking him by one ear; he immediately squeals, and when the mouth is open a noose is slipped over the upper jaw back of the tusks and drawn tight. The end of the rope is passed round a fence-post or anything which may be handy, and the pig will hold back, steadily hanging on the rope, without making any other movement. It is then the work of an instant, having everything all ready, to pierce the snout and insert and fasten the nail. The rope is loosened, and slips off the pig's jaw in an instant. Good-sized hogs may be thus ringed by one man without the need of any help besides the tools.

A "Buck-Board" Wagon.

All the costly appliances of modern carriage-building hardly accomplish a better result—so far as comfort goes—than is secured by the very simple "buck-board" of the back-woods, which is cheap, simple, and effective. The accompanying illustration shows a modification of the original device, which is in use in some parts of the country, and which deserves to be more generally adopted. The two axles are connected by a platform of oak or ash boards, which does duty at the same time as a reach, as a body, and as springs. On this platform, which is about three feet wide, there is built a common buggy-seat, with or without springs, for two persons, so placed as to bring the weight half-way between the axles.



A BUCK-BOARD WAGON.

This wagon, which may be built at any country shop, will be found as easy and comfortable as the best buggy. It is susceptible of high finish, and may be made an elegant vehicle.

Applying Manure to Wheat.

We know two quite distinguished farmers in Western New York whose land is thoroughly underdrained and in very high condition. Both grow a great deal of clover and feed a large number of sheep. All the clover and straw grown on the farm, as well as the corn and corn-stalks, are fed out, and a large amount of rich manure is made every winter. Both pile their manure in the spring, and keep it over until the fall. One applies it to his winter-wheat, and the other spreads it on his grass land that he intends to break up in the spring for corn. The farms adjoin. Both are noted for their great productiveness. It would be difficult to select two better managed farms in the State. But we noticed that the farm on which the manure is applied to the grass land is *far cleaner* than that on which the manure is applied to the wheat. We think that it will not be an easy matter to get rid of the weeds so long as the manure is applied to a crop, like wheat, that can not be cultivated or hoed.

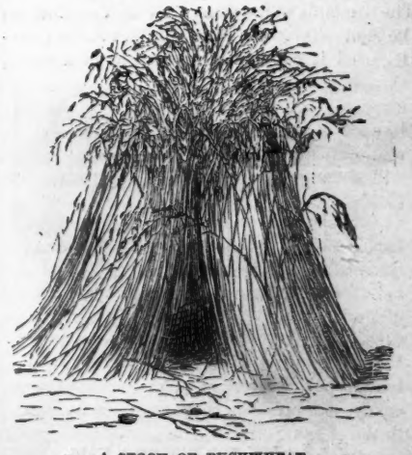
We are well aware of the advantages resulting from applying manure to wheat. It is a crop which we sell, and which brings in a good round sum of money at once. We are all anxious to get a large yield, and it is certainly not an easy matter when there is some good manure in the yard to refrain from drawing it on to the wheat fallows when we know that it is likely to add ten or fifteen bushels per acre to the crop.

When land is clean, and when the hay, straw, and grain crops are free from weeds, the practice of applying manure to wheat has many advantages. But on farms where even clover is not free from docks and red-root, and where the wheat, oat, and barley straw is mixed with injurious plants, the manure must contain large numbers of weed-seeds. Piling and fermenting the manure will not destroy the vitality of these seeds. Many of them will be pretty sure to grow in the wheat, and will go to seed, and so land and manure will become more and more infested with these troublesome plants.

It would seem, therefore, that as long as our farms and crops are weedy we must adopt some other method of enriching our land for wheat. If the land is poor, we might apply the manure to a one or two-year-old grass or clover sod in the fall, say in August or September. Spread evenly and harrow thoroughly. The weed-seeds would germinate in the fall or spring. Then pasture the field next spring, and plow it up before the weeds go to seed, and fallow it for wheat. We should be pretty sure of getting a good crop, and the land would be clean, and the following crop of clover would be heavy and free from weeds, and we should have made a commencement towards that cleaner and better farming, which we must ultimately adopt.

Harvesting Buckwheat.

"A Young Farmer" wants information about harvesting buckwheat, which we give somewhat



A STOOK OF BUCKWHEAT.

in full, as it is of general interest, and the crop is sufficiently valuable to make the proper harvesting of it worthy of more care and attention than are generally given to it. No crop is more care-

lessly put in the ground or harvested than this, and the result is that a considerable loss both in yield and quality is sustained. It is thus that the crop has come to be called "the lazy man's crop." It is too late in the season now to say anything more as to the best methods of cultivating it than that the crop deserves and will pay well to be put in in the best manner and on good soil. In harvesting, too, it will pay for good care. No crop suffers more from wet, or shells out more easily. The slender attachment by which the grain hangs, is broken very readily when dry, and it is thus best to cut it when the dew is still on it and the grain is damp. It should be cut with the cradle, and allowed to lie until again damp with dew, when it may be raked up into bunches, and set up in small shocks, without being bound, as shown in the cut. The haulm or straw will always tangle sufficiently to make the shocks hang together, and binding would cause much unnecessary waste. It should stay in these shocks, which are very open and admit air and sunshine, until the grain is cured, when it should be thrashed immediately. It will not do to stack it or put it away in a mow, as it heats and spoils very readily, and after being heated its value for flour is very much diminished. It should be hauled on a bright, windy day, if possible, and thrashed as it is hauled, the grain cleaned up immediately, and either sold at once, or stored in an airy room or granary. The earliest buckwheat flour in the market brings the best price, and that ground on a clear, windy, dry day, both yields more and better flour then when ground in damp, close weather. Buckwheat chopped with oats or rye makes excellent feed for horses, hogs, or milch-cows, and the bran will increase the flow of milk in cows, but at the same time it makes poor white butter.

Building Concrete Houses.

Edwin D. Knapp, Tompkins Co., N. Y., sends us the following directions for putting up con-

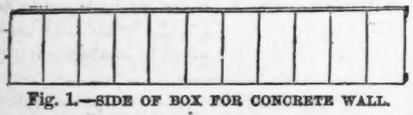


Fig. 1.—SIDE OF BOX FOR CONCRETE WALL.

crete buildings. In his neighborhood there are eighteen buildings, including one fine residence, several smaller dwelling-houses, and barns. The principle is the same as that described in the *Agriculturist* for March, 1872, but the material used is common lime instead of cement,

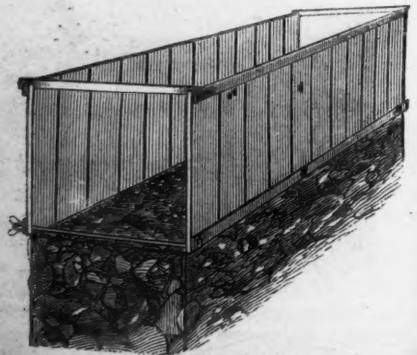


Fig. 2.—BOX FOR BUILDING WALL.

and the construction of the boxes is somewhat different. He says after the foundations are ready the boxes are to be set up. They are made of strips of 2×4 inch stuff, ten or more feet long, as may be desired to fit the length of wall to be built. On these strips are nailed boards twenty-one inches long, fitting close to-

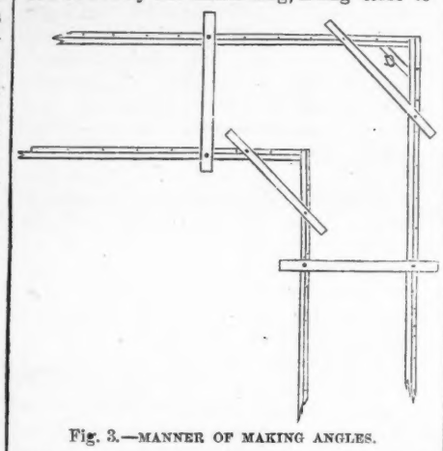


Fig. 3.—MANNER OF MAKING ANGLES.

gether. A sufficient number of boxes is provided to go once around the building. Fig. 1 shows the side of the box put together. These sides are kept in place by $^6/_8$-inch iron rods, two inches of which is bent into an angle at one end, and a screw and thumb-nut is made at the other

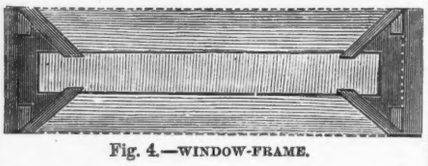


Fig. 4.—WINDOW-FRAME.

end. The length of these rods will depend on the thickness of the wall. Each box should have three rods, and holes are bored in the bottom of each side to receive them. The sides of the boxes are kept in place on the top by strips laid across with notches cut to receive the sides. These are shown, and also the rods, in fig. 2. Care is to be taken in setting the boxes to have the sides plumb, and always the same distance apart, or the wall will not go up evenly. These buildings should not have sharp corners, and in the arrangement made for the corners, as shown in fig. 3, a beveled piece is fastened (as shown at *a*) into the corner of the box to provide for this. When the boxes are placed properly they are filled with the concrete. This is made of common mortar of coarse, sharp sand and lime, in the ordinary proportions, and is put into the box, and the stone is compactly bedded into it. The stone may be common field stone, large and small together, but too many large stones are not advisable; it is best to break most of them if they run all large. It is very important that the stone should be perfectly imbedded and packed in the mortar. When the window and door frames are put in, they should be made with beveled sides, as in fig. 4, and the ends of the boxes should be tacked to them with a close fit. It is not necessary to make this attachment to the boxes at the ends, unless it happens to come so; the beveled sides of the frames may be tacked to any part of the boxes they may happen to come against. It is not necessary to have any skilled labor about these buildings; common smart laborers properly superintended will do the work very well. When the course is finished, the bolts are unscrewed and drawn out, the boxes come apart, and are set up again for another course as soon as the previous one

Fig. 5. BLOCK FOR FLUE.

is sufficiently set. One to two days are required to make it solid. As the walls are carried up, the flues for the chimneys are made by inserting in the wall the block shown at fig. 5. This is made in three tapering pieces. The center one has a ring fixed in it by which it is drawn out, then the sides are taken out, and the blocks set higher up for the next round. These are made large enough to suit the size of flue required. A wall sixteen inches thick is sufficient for a large building, a foot is thick enough for a smaller one. If it is desired to finish off the wall smoothly, a floating is given with common mortar, and a wash to color it may be made by taking five parts of water to one part of molasses, and thicken with *cement* to a proper consistence for a wash, and mineral paints or ochers may be added to suit the taste as to the color.

Double-Trees and Uneven Pulling.

Some months ago the question was submitted to us whether, when one horse of a team was pulling ahead of another, either horse was necessarily doing more work than his mate. This question was so simple that a plain answer was easily given, and we gave it, as we believe correctly, in replying no. This reply has given rise to a large number of communications, amongst which was one from the propounder of the original question, who we discovered had a dispute about the matter, and had agreed to refer to the *American Agriculturist* for a decision. Of course, it was unsatisfactory to the defeated party, who felt himself aggrieved, which seems not to be exactly the way of submitting to the decision of a referee. Had we known that we were to be placed in the position of umpire we should have declined it as a thankless and useless piece of business.

The question, as originally propounded, ad-

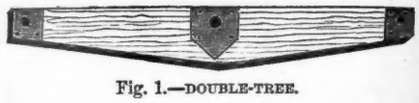


Fig. 1.—DOUBLE-TREE.

mitted of no contingency or limitation, and was therefore answered on its merits as a plain and simple one. But it is in practice subject to so many complications, that much confusion is likely to arise in the minds of those who can not easily view a question in several ways at once. Now, we propose to place the matter finally in such a way that the question will be readily understood, and may be practically useful. Freed from all those little niceties of mechanics, which practically are of no account, there are three ways in which uneven pulling operates, and these wholly depend on the position of the holes in the double-tree. If they are all in a straight line with each other, as in fig. 1, practically each horse will pull equally in whatever position the double-tree may be, so long as it is free from entanglement. If the middle hole is behind the line of the end holes, the horse in advance is doing more than his share of the work; and if the center hole is ahead of the line of the end holes the rear horse will do most work; and lastly, the further the center hole is out of line the greater difference in draft is occasioned by the unevenness of the draft.

Fig. 2.—SINGLE-TREE.

While considering this question, it is worth while to notice the forms of double and single-trees, both as relating to the case in point and

to their strength in use. While we need to have them light, they must be strong, and the form that will best include these two requisites is the best to use. In figs. 1 and 3 we give forms of double and single trees which have been used by us for many years in farm work and in heavy lumbering, and we consider them preferable to any other. The double-tree has the three holes in line, and is strengthened by light iron bands, so placed as to resist the tendency to rupture the wood. This enables them to be made much lighter than they otherwise could be to be equally strong. Fig. 2 shows a single-tree with the "belly" placed in the front. There it is of greatest use in resisting strain; when placed behind it is of the very least service. We have to acknowledge a communication from Prof. Miles, of the State Agricultural College of Michigan, on this subject, which we should gladly publish had we space, but as he entirely indorses our views as to the effects of uneven pulling in the several shapes it may be made to take, its purpose is accomplished in this earlier prepared article. We hope the matter is now finally set at rest.

A Case of Mixed Husbandry.

We have no doubt that in all the older States, near good markets, mixed husbandry is better both for the farmer and the farm. The grain farms of the West are deteriorating, and the plantations of the South are becoming barren by the persistent cultivation of cotton and tobacco, without fertilizers. Every crop impoverishes the land and takes something from the capital of the land-holder. With mixed husbandry it is quite possible to return to the soil more than is carried off every year. The annual sales may be steadily increased, and the soil be kept constantly increasing in fertility from the products of the farm. There is a great safeguard, too, in mixed husbandry against loss of crops from peculiarities of the season. The cultivator does not put all his eggs in one basket. He is certain to have something that will be specially adapted to the season. If great heat comes, and drouth, Indian corn will be successful. If he has a wet season, grass and roots will flourish, and the extra growth of potatoes, beets, and turnips will compensate for the deficiency in the corn-bin. In the variety of his crops he is certain to have something that will sell at paying prices.

As an example of mixed farming we present the sales of a New England farm for the past year, taken from the record:

FROM THE HERD.	
Heifers and beef cows	$743 84
Veal calves	106 73
Butter	149 47
Total from herd	$1,000 04
FROM THE FLOCK.	
Lambs, sheep, and wool	113 76
Pigs and Pork	256 33
Turkeys	389 23
Hens	46 33
Eggs—261 dozen	68 33
Geese	35 42
Ducks	24 54
Total animal products	$1,933 98
Potatoes	108 12
Lima beans	25 50
Onions	26 77
Straw	68 95
Pasture	4 50
Vegetables	130 92
Pickles	22 50
Cranberries	8 00
Rye	6 85
Wood	372 74
Railroad ties	123 20
Total amount of sales	$3,833 03

In looking at these figures it will be noticed that the sales of animal products are $1,933.98, while the vegetable products amount to only $898.05, and of this nearly $500 is for wood and timber. The hay, corn, oats, rye, and the large root crop, carrots, beets, mangels, and turnips, were nearly all consumed upon the farm. And in addition to these there were large purchases of corn and hay to winter thirty head of horses and cattle and thirty-two sheep. Large quantities of peat, loam, and leaves are used in the yards and stables in making manure, and in addition the wood sold is exchanged for fertilizers. These are used extensively in top-dressing the meadows as well as in raising hoed crops. The purchase of fertilizers is regarded as only a temporary necessity to bring up exhausted fields. The farm will soon be in a condition to keep fifty head of cattle, and to make manure enough to keep the fields constantly increasing in fertility.

Another item worthy of notice is that of poultry and its products, amounting to $563.85. Nearly four hundred of this is from turkeys. They have a good range through pastures and woodland, and pick up their own living mainly from June to October. Poultry, especially the turkeys, is regarded as more profitable than any other stock kept on the farm. The best varieties are selected, and none but the largest and best are kept for breeders. Sheep stand next to poultry in the profit they yield. The sales for this year were from a flock of ten sheep only. They paid more than one hundred per cent above the cost of keeping. The least profitable stock kept is swine. They consume the buttermilk, and make a good deal of manure of excellent quality, and if there is any profit, it is found only in the item of manure. But it is doubted if swine can be raised profitably in New England, at the present prices of pork. Of course, those who know the great superiority of home-grown pork and hams, will continue to raise enough for home consumption at whatever cost. But to compete in the market with Western pork does not pay even at the extra price which the Eastern article commands. The grain would give much better results if fed to poultry, sheep, or cows. With this single exception the policy of raising animal products for market rather than vegetable is regarded as sound.

Of the common farm crops rye probably pays better than any other grain. There has been increasing demand for rye-straw in all Eastern markets for litter, until it is nearly as valuable as hay. As a rule, the straw sells for as much per acre as the grain, and if the grain can be kept at home, the farm can easily bear the loss of the straw. With a light dressing of manure it is easy to get 12 or 15 bushels of rye and a ton of straw to the acre. The labor is mainly that of getting in the seed, and it comes at a season when other work is not pressing. Corn pays only because there is so much excellent fodder in the stalks, when they are properly cured. Market-gardening will pay very well near cities and villages, where the business is not already overdone. But it is properly a business by itself, and requires more skill and capital than most farmers possess to make it pay. It wants glass, large stores of manure, which are likely to rob other parts of the farm, early hours, and close attention to marketing, which will absorb the attention of one man during the season. Root crops may be grown to almost any extent. If the market is dull, they may safely be fed out to stock, where they are certain to pay a handsome profit. With suitable soil and improved tools ruta-bagas and mangels can be raised at eight cents a bushel, and we know of nothing better to make up for a short hay or grain crop. On any farm devoted to mixed husbandry roots should have a large place.

Top-dressing Grass Land.

It is a good thing at this season of the year, or before we thrash the new crops, to clean up the yards, sheds, and every part of the premises where any kind of fertilizing material can be found. The amount of manure that can be scraped together in this way will be far greater than most farmers imagine. If it is allowed to lie spread out in the yards the fall rains will wash out nearly all the valuable ingredients.

There seems to be a general idea that manure spread out on the land during the hot weather in August must lose much of its valuable ingredients by evaporation. With very rare exceptions, such is not the case. Many farmers would find it greatly to their advantage to draw out all the manure they can gather together and spread it out at this season on their grass land, either on meadows, permanent pastures, or on grass land that is to be plowed up next spring.

We would specially recommend the free use

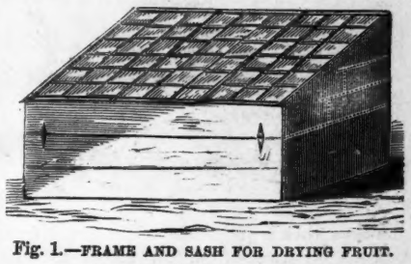


Fig. 1.—FRAME AND SASH FOR DRYING FRUIT.

of the harrow after the manure is spread. Go over it several times, and respread any of the manure that the harrows may draw into heaps. It is a great mistake to suppose that cows and sheep do not like the grass after it has been top-dressed. If the manure is well harrowed and completely broken up, the first rain will wash much of the soluble matter into the soil, and the grass will spring up and be sweet and tender, and all animals will eat it with far greater avidity than grass not top-dressed.

About Drying Fruit.

That there are better ways of preserving fruit than drying, all who put up their cans of peaches, cherries, and other fruits will admit. There is really nothing equal to properly canned or bottled fruit. But there are thousands who live where fruit is plenty and bottles and cans are scarce. It requires no little skill and some

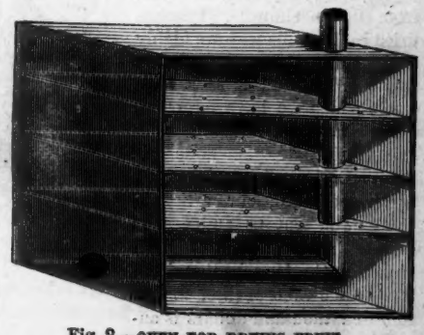


Fig. 2.—OVEN FOR DRYING FRUIT.

outlay to bottle fruit, and but few care to put up more than will be needed by their own families. The sun and the air are free to all, hence thousands dry fruit where one puts it up in the improved method. They may not be for

some purposes as good as that which is canned, but there is a flavor about dried apples and dried peaches peculiar to them, and while we have a plenty of canned peaches we like now and then a pie made of the dried fruit. Persons far away from all access to cans and jars, having an abundance of fruit, dry it and turn it into cash. Many a hard-working woman in the mountains of North Carolina or in the abundant orchards of Ohio and Illinois and other Western States dries fruit enough to supply her family with groceries for the year. There are various ways of drying fruit.

Fig. 3.—DRYING FRUIT IN THE OPEN AIR AT HIGH POINT, N. C.

A few years ago we were much interested in seeing how a share of the abundant peach crop in Missouri was disposed of. A rude oven was made in the side of a bank, some broad stones formed the top, and underneath these a slow fire was made. Upon the stones were placed peaches, cut through to the center. A slow fire was kept up in the oven, and the fruit gradually dried. A rude shelter was made over this drying oven to protect the fruit from sudden showers. Peaches dried in this rude way are highly prized by the German population of the West, and have a local name which we have forgotten.

An enormous business in the aggregate is done in North Carolina in drying fruit. Mr. Woodward, our artist in the South, sent us an account of the drying of fruit at High Point, N. C. He says that dried fruit to the value of three to four hundred thousand dollars is annually sent from that point alone. He writes:

"As enormous as the business is in the aggregate, no one person carries it on to any great extent. Every family has its orchard and dry-house. In my travels through the surrounding country, I did not see a house that did not have fruit of some kind curing in the yard. Many of the dry-houses were of the rudest description—built of logs, with a flue running through the bottom. The sketch (fig. 4) is of one of the most improved kinds—a circular building, with a revolving post in the center, on which are racks to place the triangular-shaped trays. A person standing outside can in this way turn the rack and reach any tray without difficulty. The flue is at the base inside, extending around the whole house, thereby securing an even temperature. The house (built of brick) is very close, so that no heat escapes. It takes a day and night for peaches to dry thoroughly. Apples, as a general thing, are dried in the sun (as shown in fig. 3), taking about two days. The best quality is very white, but not so fine in flavor, as the fruit to obtain this color must be pulled and dried when green. Old housewives prefer the mahogany-colored apple for cooking."

Fig. 4.—A SOUTHERN DRYING-HOUSE.

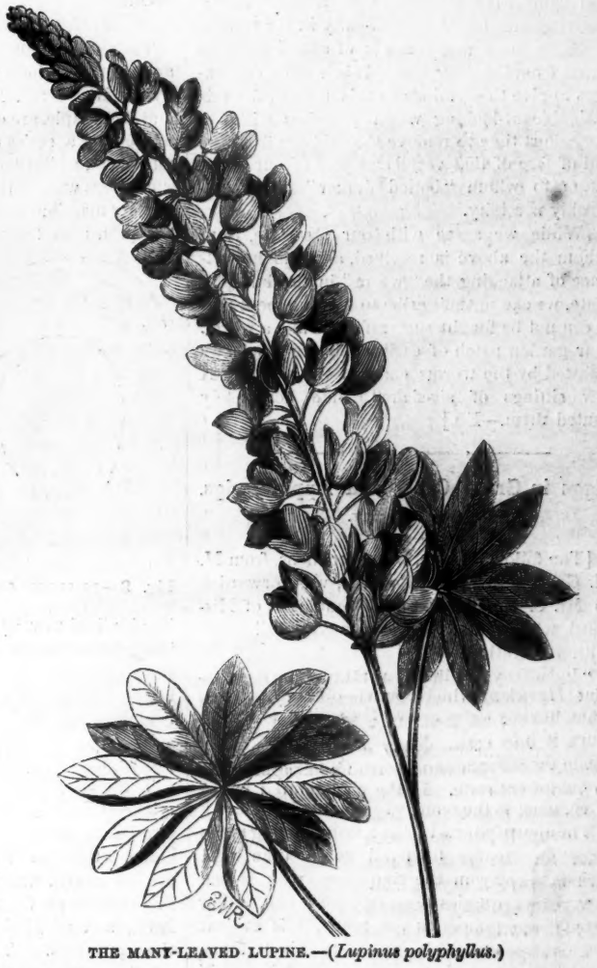
Drying fruit in the open air on trays or shelves is not altogether a satisfactory process. It is slow and uncleanly, is often interfered with by the weather, and the fruit is very often damaged by flies. A very simple and effectual method may be taken by using the sash and frame of a hot-bed. As soon as the hot-bed has served its purpose in the spring, it should be cleared out and the boards washed off; shelves may be laid within it, which should be covered with clean white paper, to receive the fruit and to reflect the heat, and a strip of wire-gauze or mosquito-net fastened at the back to permit the escape of the damp heated air. The glazed sash may then be kept closed, and the entrance of flies prevented. The temperature within the sash will be sufficient to dry the fruit very rapidly, and rain does not interfere with the operation except to suspend it temporarily.

The arrangement is shown at figure 1. At figure 2 is shown a cheap and useful dry-house for the use of artificial heat. It is made of sheet-iron, with perforated sheet-iron shelves, the edges of which are turned up so as to form shallow pans, and a tube similar to a common stove-pipe passes through it, having an opening at the outside, as shown in the figure. A handful of live coals of hard wood or charcoal is sufficient to raise the requisite heat, and care only is needed to keep the heat low enough to dry and not to cook the fruit. Fruit dried in this manner is sweeter, and retains its natural flavor better, than that dried by the sun. The more rapidly the drying is performed, the better.

The Green Dragon.

In July we gave an engraving of a common but very interesting plant, the Indian Turnip, *Arisæma triphyllum*. We now present a drawing of another species, *Arisæma Dracontium*, the Green Dragon or Dragon Root. This is much less common than the other species, and though not quite so showy is nevertheless a plant that is likely to arrest attention. Its leaf—it usually has but one—is singularly divided into from seven to eleven and even as many as thirteen leaflets. The flower is greenish, and not showy. The spathe, or envelope that surrounds the flowers, instead of being broad and bent over at the top as in the other species, is rolled into a narrow tube and terminates in a short erect point, and the spadix upon which the small flowers are fixed extends considerably beyond the spathe. This has not the turnip-shaped root-stock of the Indian Turnip, but a cluster of small tubers. The plant is found on rich river banks in most parts of the Atlantic States. The drawing was made from a specimen from our garden, where we find it a curious if not very showy member of the collection.

THE GREEN DRAGON.—(*Arisæma Dracontium.*)



THE MANY-LEAVED LUPINE.—(*Lupinus polyphyllus.*)

The Many-leaved Lupine.

The genus Lupine (or *Lupinus*) is a very fine one. It includes annuals, biennials, and perennials. Some of these are in Europe important forage plants, and others are grown for ornament. The common Wild Lupine, *Lupinus perennis*, is well known, it being common in sandy soil in the Northern and Middle States. Farther south it is replaced by a more hairy and simple-leaved species, *Lupinus villosus*.

But the Lupines of the Atlantic States sink into insignificance when compared with the fine species of the Pacific coast. In California and Oregon there are forty or more species, some of them forming large branching plants, with showy racemes of flowers, which are white, yellow, and through all shades of blue to deep purple. Only a few of these far Western Lupines have been brought into cultivation, and the best known of these is the Many-leaved Lupine, *Lupinus polyphyllus*, which is now a not rare and very showy ornament in our gardens. We have grown it for several years, but have never succeeded in raising such fine plants as we saw growing wild in California. It was near a miserable little Indian village called San Felipe that we came across a large patch which seemed to us one of the finest floral displays we ever witnessed. The plants stood at least six feet high, and the flower-racemes were from one to two feet in length. These stood up above a wonderfully luxuriant mass of foliage, and the whole formed a flower-show that we shall never forget. As we grow it in the garden, the stems seldom reach higher than three feet; still, though it falls far short of the beauty it possesses in its native locality, the plant is a very desirable one for the garden, as it remains in bloom a long time, and has a stately aspect that is very pleasing. The specific name, *polyphyllus*, has reference to the many divisions of the leaf, which are sometimes as many as fifteen. The flowers are variously colored, being purple, blue, and even white in different seedings. The seeds are generally kept by our best seedsmen, and we may remark that this, and all other perennial Lupines that we have cultivated, are very impatient of removal after they become large. We start the seed in boxes, and after the plants show a few leaves transplant them to the place where they are to bloom. Removing large plants is not likely to be successful.

The Cabbage-Worm (*Pieris rapæ*).

The "Cabbage-worm" is not a pleasant subject, but he is a very important one. Where he came from, and how he got here, are matters which have been sufficiently discussed. The cultivator's interest begins and ends with the more important facts that he is here, and that he must be got rid of, or cabbage-growers must find another occupation.

With the worm, *as a worm*, there is little use in contending. It is not a sensitive creature, and cares little for bad tastes and bad smells. Its mission is to eat cabbage, and it fulfills it in spite of all obstacles. The only way to attack it with any hope of success is to nip it in the bud, and its particular bud is the pretty white butterfly that lays the myriad eggs from which it is hatched. Fortunately, these butterflies are somewhat influenced by foul odors, and whale-oil soap, fish pomace, carbolic soap, flowers of sulphur, and such nastiness, will incline them to seek other foraging ground. This means will do much to abate the nuisance, but the further precaution should be taken to catch and kill as many of them as possible.

Farmers and gardeners should combine to

make up a purse from which to pay children for hunting them. It would be a very good investment to pay $1 per 100 for all the white butterflies that are delivered, and an active boy with a light net (made of ordinary mosquito-cloth) can catch several hundred in a day. Every butterfly killed, especially if early in the season, means a good many heads of sound cabbage saved from the destroyer. It behooves cultivators to give their minds to this matter, for this insignificant-looking worm promises within a very short time to remove the cabbage from the bill of fare of that very large part of our population to whom "boiled dinner" is a semi-weekly necessity.

[While we agree with our associate, from whom the above is received, as to the importance of attacking the "worm" in the butterfly state, we can not subscribe to his statement that it can not be fought successfully while a worm. Our garden patch of early cabbages was badly infested by the worms early in the season. A few siftings of air-slaked lime completely routed them.—ED.]

Eggs in Grape Canes and Apple Twigs.

BY C. V. RILEY.

[The following note, with specimens, from M. H. Garland, Amherst Co., Va., was forwarded to Mr. C. V. Riley, State Entomologist of Missouri, who returns the accompanying full reply, with illustrations.—ED.]

"Inclosed you will find a cutting from a grape-vine (*Eumelan*), which you will observe has been punctured by some insect. By splitting through the center you will find imbedded in the pith a small worm or grub, about 1/8 of an inch in length; yellowish white in color; but apparently in a dormant state. Is the vine injured by it? If so, what is the remedy? What is its name?"

The above letter with the accompanying twigs came to hand some time ago. From the frequency with which queries regarding these and similar punctures are made, it is evident that little is known about them, and that a few explanations will prove interesting to many of your readers.

Fig. 1. PUNCTURED CANE.

Those sent by Mr. Garland are illustrated at Fig. 1. The punctures are in a straight row, about one third to one half-inch apart, and appear as though made by a rather large-sized pin (*b b*). Each puncture leads to from ten to twelve slender, elongate eggs (*c*), about a tenth of an inch long, and deposited on either side of the puncture, *lengthwise*, in the pith (*a*). About the first of May they hatch out into little dingy crickets, and though I have not yet kept them until the last molt, and no one has ever bred the perfect insect, I have little doubt but it will prove to be the Jumping Cricket (*Orocharis saltator*, Uhler), so named, I suppose, by my friend P. R. Uhler, of Baltimore, because it does not jump as much as some of its confrères. This insect (Fig. 2) is of a pale yellowish brown color, and the female (*a*) differs from the male (*b*) in possessing a long ovipositor, and in her wings being more rounded and less ribbed and veined, so that she can not chat and sing as does her lord.

These Jumping Crickets are at times quite injurious, for they have a vicious habit of severing green grapes from their stems, and uselessly scattering them upon the ground—always performing their nefarious work at night. The eggs should therefore be destroyed; and this is best done by cutting and burning in the winter-time.

Other eggs, which I receive quite often, are those illustrated at figure 3.

The twigs or canes of various cultivated plants, and notably those of the Grape-vine, Apple, Peach, Raspberry, Blackberry, White Willow, and Soft Maple, are often more or less split or disfigured by a series of closely set but irregular punctures, as illustrated at *a*. Upon cutting into such twigs we find that, unlike the eggs we have already mentioned, these all lie diagonally across the pith, close together, in a single, irregular,

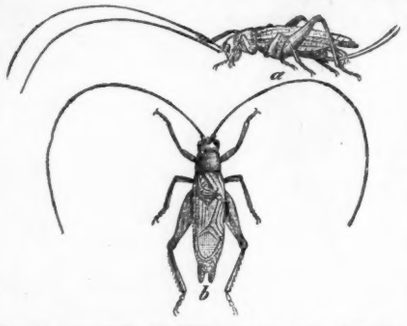


Fig. 2.—JUMPING CRICKET, MALE AND FEMALE.

longitudinal row, as at *b*. More carefully examined with a lens, each egg appears pale yellowish, sub-elliptical, a little curved, more pointed at lower end (*c*), and capped at the head or more rounded end with regularly arranged white, opaque granulations, which, under a low-power microscope, appear as shown at *d*.

These are the eggs of the Snowy Tree-cricket (*Œcanthus niveus*, Harr.). The young also hatch about the first of May. After eating through its egg-cap, the new-born cricket is still enveloped in an exceedingly fine membrane, from which it soon extricates itself, and which it leaves at the orifice of the puncture. These young crickets are whitish and very active, and generally conceal themselves in the thick June foliage of our woods or our orchards. At this time of their life they subsist principally on plant-lice, eggs of insects, and other delicate animal food; and if they can get nothing better, will exhibit their cannibalistic propensities by devouring the weaker individuals of their own kind. Subsequently, as they grow larger, they are often content with a vegetable diet, and thus they perfectly combine in one species herbivorous and carnivorous habits. After the first molt they begin to vary a good deal in color, the females generally being quite dark. When mature, the female insect presents the appearance of figure 4, and the male that of figure 5.

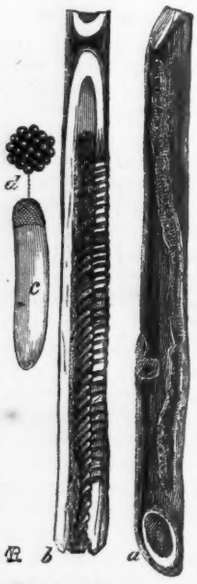


Fig. 3.—PUNCTURED TWIGS.

I have at the present time an extensive young brood of these little crickets in one of my breeding cages. They were hatched from a Soft-maple twig, which furnished material for our illustration, and it is astonishing how quickly they will clean off an aphis-crowded twig, of whatsoever kind. When in the course of a few weeks more they acquire their full growth, and with it their wings, it is likely that I shall consign them to chloroformed oblivion; for the male swells with such pride at the acquisition of wings, that he sets them a-going, fiddle-and-bow-fashion, until the shrilling and shrieking fairly distract. He becomes almost as much of a nuisance in-doors, as the young and ambitious musical boarder who grates eternally on his catgut. The only difference is that our little six-legged musician is denied (but not very justly, since he has an object) discriminating reason, while the two-legged fiddler is supposed to have reason, which, however, does not always make him considerate of others' feelings!

Fig. 4.—SNOWY TREE-CRICKET—FEMALE.

5.—SNOWY TREE-CRICKET—MALE.

But—not to wander—this Snowy Cricket shares with his more robust Jumping companion in the nefarious midnight-work of gnawing, girdling, or severing different parts of the grape thyrse, causing the berries either to shrivel or fall, and producing what is often known as "shanking." The virtues of its youth do not atone for the bad habits of its after-life; and this *Œcanthus* must be classed with the bad bugs.

Fig. 6.—PUNCTURED TWIG.

Still a third kind of punctured twig is illustrated at fig. 6. The punctures consist of a row—more or less straight—of little raised slits in the bark (*b*) in each of which upon careful examination may be found an oval, dark-colored egg (*a*). These slits have been mistaken by the uninitiated for the crescent cuts of the Plum Curculio, and thus the false story goes that Madam Turk sometimes oviposits in twigs. They are in reality those of the Buffalo Tree-hopper (*Ceresa bubalus*, Fabr.), a yellowish-green, hump-backed insect, with two little horns on the prothorax, which render its name not inappropriate. A side view, natural size, is shown at *a* and a back view at *b*, fig. 7. The young are at first brownish, with a formidable row of ten pairs of compound spines, and looking totally unlike the mature insect. After the first and second molts they are still furnished with these sprangling spines on the back, but are of a paler color, with some transverse lilac-colored lines. With the third and last molt they suddenly acquire the mature characteristics.

Fig. 7.—BUFFALO TREE-HOPPER.

This insect subsists during its whole life on the sap of apple, pear, and other trees, but never does serious injury.

These three are the more common kinds of twig-eggs that attract attention; and although there are many other kinds that are of interest to the fruit-grower as well as to the entomologist, this article is already too long to allow us to undertake a description of them at present.

COLD-FRAME CABBAGE PLANTS.—Col. Waring wrote an article on cold-frame cabbage plants, to some points in which Mr. Henderson took exceptions. We give Col. W.'s rejoinder, which closes the discussion: "I would not presume to dispute the statements of a wise old gardener like Peter Henderson, but you must not try to screen me behind 'climate.' Bless you, Newport is green and growing after Bergen Point is brown with the frost. I have not my previous article before me, but I think I said—I surely should have said—that when the plants are large enough to prick out, if it is too early, we pull them up and heel them in. If they recover from this check in time to threaten to run to seed, we pull them up again and give them a fresh start. This treatment will save them, if they are planted in August. If you doubt it, just try it. My experience of this year with some plants whose stems had been split by frost, show Mr. Henderson to be about right—these plants are heading about as well as the others, but this does not shake my belief in his statement, 'Gardening for Profit,' page 126: 'In planting, it is very important with cabbage or cauliflower that the plant is set down to the first leaf, so that the stem or stalk is all under ground, for we find that if exposed it will be split by the action of the frost, and will be injured in consequence.'"

The Baldwin Apple and its Origin.

BY MRS. ELIZABETH OAKES SMITH.

It is not improbable that of the many who are able to procure a taste of the delicious Baldwin Apple not more than one in ten knows from whence it originated, or knows anything of some interesting historic points associated therewith. I have so often heard my husband, Seba Smith, speak of this fruit, and of the Pearce family, with whom he was associated by the warmest ties of friendship for nearly sixty years, that I am induced to offer your readers a brief sketch of the same.

The Baldwin Apple came from a seedling planted by Josiah Pearce, Esq., of the town of Baldwin, Me. From this stock innumerable grafts have extended the fruit far and wide, but from a well-known law of extension, the Baldwin Apple is rarely found in perfection when far removed from the place where it originated. In Maine, the color, texture, aroma, and solidity of the apple leave nothing to desire, being in truth so delicious, that it might have been akin to the one said to have brought difficulty upon our mother Eve. In other localities, where the soil, climate, or culture may have proved unfriendly, what is called the Baldwin Apple may often be found a total failure, being puffy, insipid, and subject to early decay.

It is not generally known that "Squire Pearce," of Baldwin, Me., was half-brother to Benjamin Thompson, better known as Count Rumford. The mother of these two men was twice married, the first husband being Benjamin Thompson, the second Josiah Pearce, both men of culture and influence in their day. Mrs. Thompson, afterwards Mrs. Pearce, was a woman of strong sense, one of those self-poised, wise women so prominent in our Revolutionary annals. Count Rumford was born in the then town of Rumford, now Concord, N. H., being some twelve years older than his half-brother Pearce. He received a military commission under the Royal Governor of the Colony of Massachusetts. At the breaking out of hostility to the British Crown, young Thompson was supposed unfriendly to the popular movement for freedom, and was most rudely driven from his home by his more zealous neighbors, and compelled to take refuge in Boston, where he became associated with Governor Gage. He was unquestionably what was then known as a "Tory," a circumstance which for many subsequent years was considered as a blot upon the family escutcheon by its patriotic members, although he never took up arms against his country. The subsequent career of Benjamin Thompson is well known. He seems to have cast lingering looks of fondness toward the place of his birth, though familiar with courts and loaded with honors by crowned heads, as is evident by his assuming the name of his native town when the honor of knighthood was conferred upon him by the King of Bavaria—hence his title of Count Rumford.

He was a brave soldier and accomplished military leader, but his character, essentially observant and philosophic, was more naturally employed in those scientific pursuits which for many years engaged his attention. He unquestionably anticipated many of our modern improvements, and was one of the first to turn public thought in the direction of economizing the fuel of the laboring classes. It was a jest in regard to him in Bavaria that he "would soon be able to cook his dinner from the smoke of his neighbor's chimney." He was philanthropic in the highest sense. He devised methods for improving the condition of the poor, by making their labor more productive, by founding better dwellings for them, by teaching them order, cleanliness, and economy, and thus doing away with beggary and disease. Few men of our country have enjoyed more general approbation abroad than Count Rumford, and our own people are beginning to learn that he was a great and estimable man.

In the mean while, the other brother, Josiah Pearce, had become the possessor of a large landed estate, and was living in Baldwin, Me., where he was plowing and planting, and helping on the interests of a scattered but thrifty population. Like his brother, Count Rumford, he was a generous, warm-hearted man, striving to make better what other men considered well enough, if not absolutely good. He experimented much in horticulture, endeavoring to ascertain what fruits could be cultivated to highest perfection in the inhospitable climate of Maine. He bestowed much attention upon the native grape, many varieties of which have large and well-flavored fruit. He planted the seeds of the potato, as did my grandfather David Prince, and thus produced new varieties, well-suited to the soil, and of superior quality. But it was in the cultivation of the Apple that he finally settled down upon as the fruit most genial to the soil, and best adapted to the climate of a State whose long winters are the fostering nurse of a social virtuous population, and whose brief summers vie in intensity with the heat of the tropics. The apple-blossom is the first harbinger of its springs, and the frosty airs of October are rendered more aromatic by the perfume of the apple-tree laden with its richly-colored fruitage. Thus an entire season is required to perfect this kingly fruit.

The old Pearce homestead at Baldwin still attests the skill and enterprise of its ancient owner by its extensive orchards, amongst which may be found *the* Baldwin, richly productive. The tree has been known to yield an almost fabulous quantity of fruit, and in the season for pruning its thrifty branches were carefully preserved, and liberally distributed to the neighboring farmers.

I have often heard my husband describe this intelligent and most hospitable family. Mr. Pearce was a sort of lord of the manor, to whom everybody came in time of trouble, and was sure of the best aid and advice. He was an eloquent converser, and recited admirably.

Some time in the early part of this century, the Countess of Rumford, daughter of Benjamin Thompson, visited her transatlantic cousins, and was for many months domesticated with the cheerful household. She was a plain, unmarried woman of great good sense, and somewhat learned.

It was the custom for New England teachers of public schools to "board round" with the families of the district until the amount each one was to pay the "master" was boarded out, and such experience was not always of the most agreeable kind. My husband kept the district school of Baldwin for several seasons, but was generally exempted from this contingency by being warmly welcomed at the Pearce homestead, whence he wrote comical rhyming letters to his friends describing the good cheer. One couplet I remember was thought very grotesque:

> "We have apples, and doughnuts, and cider,
> And curious things fried in a spider,"

the last-named being of course sausages, and the apples the favorite Baldwin.

Shortly before the demise of my husband he received a long letter from his unfailing friend Josiah Pearce, Jun., who had been a judge for many years, in which he thus refers to the family: "Baldwin has greatly changed since you were there. My sister Hannah, who is unmarried, lives at the homestead, and owns the house by division of the property, all the outbuildings, and one hundred acres of the farm. I oversee her business for her. All is still, where once had been so much harmless mirth and activity."

It may be remarked that George W. Pearce, brother to the judge, and son of the first-named Pearce, married a sister of the poet Longfellow. He gave very great promise of a brilliant career, having beauty, genius, and wealth, but died suddenly, while little more than twenty-five years of age. His widow has never since married.

PATCHOGUE, L. I., June 29th, 1872.

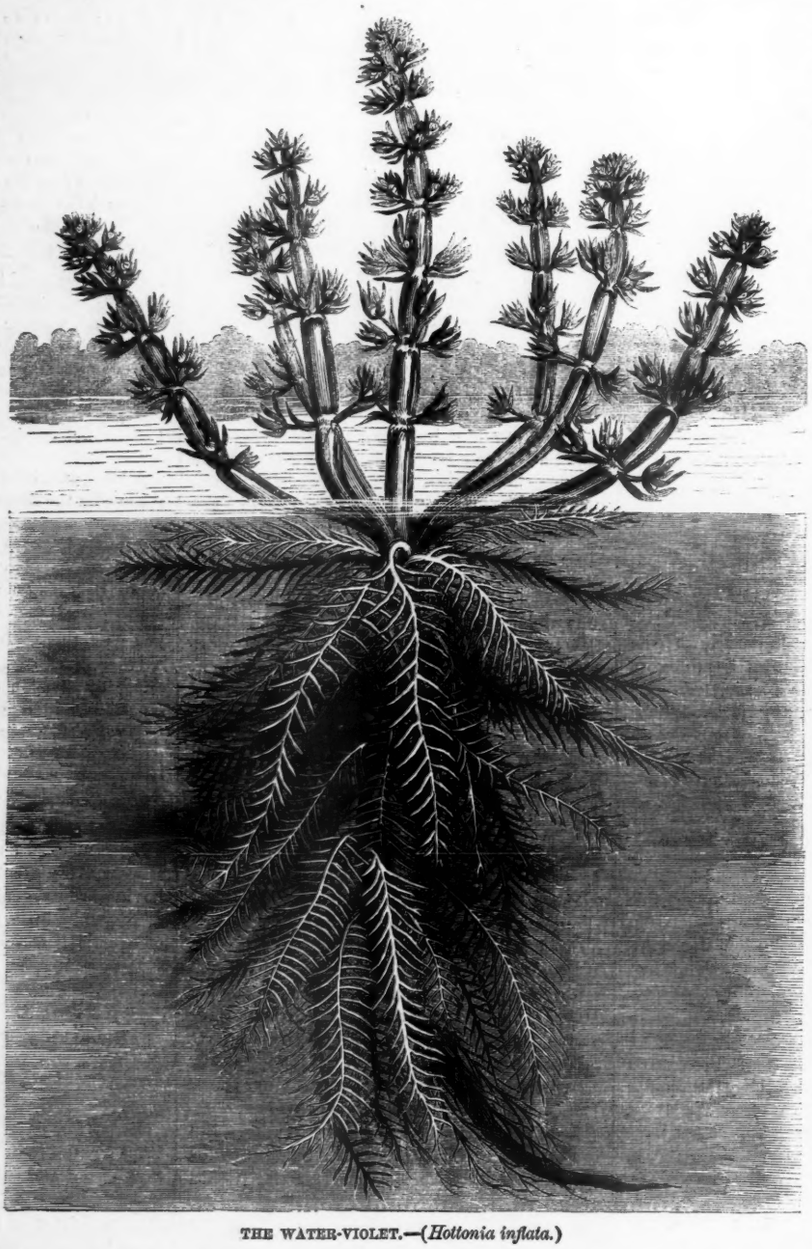
Vegetable Plants for the South.

BY PETER HENDERSON.

Every few days, during the summer months, I am written to by some of your readers in the Southern States, wanting to know how they can procure plants of celery, cabbage, cauliflower, etc., to plant so as to produce crops of these during the fall and winter months. Plants can easily be raised here at any season, from May to October, but the time that it is necessary to plant for the fall or winter crops in South Carolina or Louisiana (August and September), it is hardly practicable to ship with safety, particularly celery plants, for if packed more than three or four days (unless the weather is very favorable when set out), the chances are that many would die. To produce plants in these latitudes by seed sown in the ordinary methods, during the month of June, July, or August, rarely results in success, but an experiment in raising celery plants in which we have just been successful here this season, suggests that the same plan may be adopted in the Southern States. Our celery plants are always sown here from the

first week in April to the first week in May, but this season the weather was unusually hot and dry during May, so that our crop of celery plants sown April 15th was found, on examination the first week in June, to be a partial failure. I had never sown as late as this before, but plants must be had, and the experiment was worth trying. So we again sowed on well-prepared ground, rolled carefully, and covered the seed-bed an inch deep with salt-meadow hay. Of course, any similar covering will do, if salt-hay is not procurable. The seeds germinated in 6 or 8 days from time of sowing. As soon as this was apparent, the covering was partially removed, and in two or three days more further removed, except just enough to cover the soil, so that the bed got the full rays of the sun, yet modified by the sprinkling of hay over its surface. The advantage of the hay-covering is twofold; it prevents heavy rains from battering the soil, and it also prevents the escape of moisture. Our experiment has been a complete success, as we have more plants from one pound of seed sown in June than from four pounds sown in April, though under the ordinary conditions the opposite result might have been the case. Now, plants of celery, cabbage, or cauliflower can no doubt be successfully raised by this plan in the Southern States, when the ordinary method of sowing without covering with hay would be almost certain to fail. Where hay is not procurable for covering, an excellent substitute would be the pendulous moss (*Tillandsia*) which grows so abundantly in the woods of most of the Southern States. It it difficult to say at what time the sowing should be made, as much would depend on locality and the condition of the atmosphere after sowing. So the safest way would be to sow at different times, say from June 15th to August 15th. The result, if successful, would well justify the trouble and expense, as all these vegetables, from the hitherto difficulty of getting plants to set out, have brought enormous prices, celery often selling in the markets of New Orleans and Charleston for 25 cents per head, while the average in New York is hardly 3 cents. There is no reason, either, why cauliflowers could not be grown finely in the mild, temperate atmosphere of November and December in Charleston or Savannah, and shipped to New York. The transportation at that cool season would be safe, and during the month of December it is safe to say that average heads of cauliflower would sell for $30 or $40 per 100 in the markets of New York. I saw some in the grounds of Mr. Van Sicklen, of Jamaica, L. I., in November of 1870 (which he had protected from the frost), for which he was receiving $10 per dozen, or nearly $1 each! There is a wide field in the South for enterprises of this kind, if energetically undertaken. All cultivation so far has been with a view to get vegetables *early*, but in my opinion they might be raised in many instances to better advantage, if grown to fill up the blank in vegetation that our frost-bound earth at the North makes during the winter months.

For example, spinach sold here the past March for a few weeks at $20, horseradish at $30, and lettuce at $10 per barrel, simply for the reason that everything was frozen up solid. Now there is no reason why these—particularly spinach and lettuce—could not have been grown in as good condition in the neighborhood of Charleston or Savannah in March as they could be raised here in June, when we are abundantly glad to get from $1 to $2 per barrel for them.



THE WATER-VIOLET.—(*Hottonia inflata.*)

The Water-Violet or Featherfoil.

In illustrating as we frequently do our native plants, we sometimes select those subjects that it is desirable to introduce into cultivation, and at others plants that are interesting for their rarity or curious in their structure. The Water-Violet or Featherfoil, *Hottonia inflata*, is rather rare, and has a structure sufficiently peculiar to commend it to notice. The name Water-Violet is likely to mislead, as its relationship to the Violet is exceedingly remote, it really belonging to the Primrose Family. The plant, as will be seen by the engraving, is purely an aquatic, with its leaves all submerged, and very handsomely divided. It is no doubt rooted when young in the mud at the bottom of the pond or pool in which it grows, but at flowering time it appears to be floating. The flower-stalks form a symmetrical cluster; each is marked with joints, from which arise whorls of small white or slightly bluish flowers. The flower-stems are hollow and inflated, enabling the plant to float; they sometimes are as large as one's finger, and give the plant a striking appearance. It makes an interesting plant for a fresh-water aquarium. The genus *Hottonia* was named in honor of a Leyden botanist of the seventeenth century. The specific name of our species, *inflata*, has reference to the peculiar character of the flower-stems. In Europe another species, *H. palustris*, has much more showy flowers than ours, but is without the peculiar bladdery flower-stems. Our specimens came from a pool near Hackensack, N. J. Although the plant has been so long known to botanists, we believe that no engraving of it was ever published before the one which we give accompanying this article.

ROSES ON APPLE-TREES.—"G. H. C.," Benson, Ky.—The case to which you refer is of frequent occurrence. Certain papers seem to have a set of items that they bring out every year. The old negro woman who was nurse to Washington, the toad found in the center of the oak-tree, and the wonderful appie-tree that bears double roses—all belong to the same set. It is not at all a rare thing for apple-trees, especially the Early Harvest, to bear a few late flowers which are more or less double. The apple belongs to the same family with the rose, and when its flower becomes double it very strongly resembles a small rose.

THE HOUSEHOLD.

☞ *(For other Household Items, see "Basket" pages.)*

Barefoot Boys,

And girls, too! There is something to be said on both sides. Some people have an unreasonable prejudice against bare feet, except in poems, pictures, and statuary.

Is anything in nature much more beautiful than a baby's soft pinky foot? Of course not. And here is Miss Two-year-old sweetly pleading, "May I go bare-feeted 'ittle 'hile?" when you give her a bath and clean clothes in the afternoon.

Say "yes" to the little darling. Her "while" will be little enough, for the soft feet are as tender as a maiden's cheek, and she will be glad enough of shoes and stockings very soon. How daintily she steps, and the working of her curly toes shows how they rejoice in their freedom! When she goes out of doors she chooses soft grass or soft mud to walk upon. The heroine of Jean Ingelow's story is none too extravagant in speaking of the delightful sensation little feet have when set free upon soft grass, but who shall describe the pleasure of paddling in the mud on a warm summer day?

The barefoot school-boy knows all about it. His is a tough foot. He probably makes some involuntary choice of stepping-places as he runs like a free wild animal over weedy roadsides, pavements, chip-yards, stubble-fields, but it is a wonder that he gets so few cuts and stone-bruises.

The country school-ma'am prefers to have her pupils come with bare feet—unless she has a good deal of conventional pride in their appearance. The restless lads and lassies make noise enough with their buzzing lips and their shuffling of books and slates, but on rainy days, when many of the children come in their heavy leather shoes and boots, the added noise of their scraping and stamping makes the day's work almost doubly wearisome.

I like to see the bare feet of young Americans, even when they are scratched and muddy. The outlines are as good in flesh as in marble. I believe in letting children go barefoot in the country during the warm weather. But this is often carried too far. I believe the vital power of children is often weakened by too much exposure of the feet to cold. The barefoot country children are likely to be healthy because they live out of doors almost constantly, except when confined in schoolrooms, and in summer these school-rooms have every window opened for fresh breezes.

But if children have their own way they get off their shoes and stockings too early in the spring, and thus often change directly from thick shoes and woolen stockings to bare feet. In chilly mornings and evenings the little unclad feet go through the heavy dews, and then they have to be washed, often in cold well or spring water, before they are fit to rest between white sheets.

Cold foot-baths are good in their place, but some children get far too many. They wade in the streams and ponds too often and too long at a time. It undermines their constitutional vigor, and makes them an easy prey to disease. Upon the temperature of the feet the general health in very large measure depends. The blood in different parts of the body is affected by the condition of the feet. If they are not sufficiently protected from cold, it is unduly cooled in its passage through the capillaries of the feet. If they are overheated, the whole system will be refreshed by reducing the heat of the feet to a comfortable temperature.

Ask any wise physician of your acquaintance (if your own experience or observation has not taught you) whether bathing in lakes and rivers (or "going in swimming," as country boys say) and wading in shallow streams are not usually practiced too much by boys who like such things—whether it does not make them often grow thin and languid during the summer months.

Then let the children have the blessed freedom and delight of bare feet on warm days, but guard them from injuries that may result from improper exposure of the feet. RELL.

Home Topics.

BY FAITH ROCHESTER.

AT SCHOOL TOO YOUNG.—I know a mother whose three youngest children are aged respectively four years, two years, and seven or eight months. The mother is loving and intelligent, and has health as good as that of the average American woman. No human being, not even a mother, is infinite in capacity to do and endure. The oldest child needs as constant looking after as either of the others, especially because he is so much tempted to tyrannize over the second child. And so

> "To school the little exile goes,
> Torn from his mother's arms."

I don't know as this mother can do any better—but isn't it a pity? She says she would much prefer a kindergarten, but there is none within reach, and so the ordinary district school is resorted to. Perhaps the school-ma'am will have mercy on the little fellow, and let him play out of doors most of the time during school hours. I used to do so with the babies sent to me when I was a district school-teacher, and I am glad I did.

I can understand what a relief to hard-working mothers it must be to get their mischievous, inquisitive children off to school for six hours every day, provided they can feel that such a course is best for the children. And it is sometimes the case that the country school-teacher has so few pupils that she can afford to act the part of nurse to four-year-old children. A school not far from here has only eight or ten pupils in the summer-time; and I remember that my first school would not have averaged a larger attendance, except for the little class of A-B-C scholars.

The danger is that the teacher will feel called upon to put the little ones ahead in reading as fast as possible. If she has read Miss Peabody's and Mrs. Mann's and Miss Youmans's essays and letters about primary education, and has duly considered that remark of a British Commoner, "It is better (or more important) that a child should like his lesson than that he should learn it," she may be able to do the fair thing by her infant pupils. Play is the proper business of a child. Its five senses should be awake and active, and its education should come through them chiefly until it is seven or eight years old.

I anticipate great pleasure in seeing my little son enjoy his reading when he gets to that, but his father and I congratulate ourselves very often on having delayed that event so long. So much better things are being done for him than would be likely to be done if he could immerse himself in a story at any leisure moment. There is time enough for the book study in the course of a lifetime, but the golden years when the observing faculties are developing and taking on habits can never come again after early childhood is once passed. This child learned all his letters long ago, from newspaper headings and advertisements chiefly, and we were tempted to lead him right along in a path that seemed so easy for him. I should think he might "read in readings," after a very little practice, any time when we set about it, for he knows the letters by their sounds, and spells any plain word you pronounce to him. He seems to have an idea that what papa and mamma can not tell him about the things which arouse his curiosity, books can; and he stands by while I consult a book to find an answer to his question with a feeling, apparently, that this universe is full of wonderful things, in which a great many folks besides himself and mamma are interested, and these folks—Gray, Youmans, Agassiz, and the rest of them—will help a little fellow if they can. It is a sight that I enjoy. He "likes his lesson," and his *liking* will lead him on farther and deeper in the pursuit of knowledge. Almost any child can be made to hate school and to loathe study by tasks inappropriate to its stage of mental growth. This would be a great calamity. It would also be a calamity if a child should love reading and spelling too well, too mechanically, enjoying the parrot-like exercises that constitute the routine of many schools, preferring to commit to memory some description of a bird or flower or mechanical operation, rather than to use its own observation and learn all the facts at first-hand. Let me quote a paragraph from that excellent essay on primary education in Miss Youmans's First Book of Botany:

"The glaring deficiency of our popular systems of instruction is, that words are not subordinated to their real purposes, but are permitted to usurp that supreme attention which should be given to the formation of ideas by the study of things. It is at this point that true mental growth is checked, and the minds of children are switched off from the main line of natural development into a course of artificial acquisition, in which the semblance of knowledge takes the place of the reality of knowledge. We have seen that the growth of mind results from the exercise of its powers upon the direct objects of experience, and consists in its recognition of distinctions among the properties and relations of things, and in the classing and organization of ideas thus acquired. These operations can be facilitated by the use of words and books, but only when the ideas themselves are first clearly conceived as the accurate representations of things. But, the ordinary word-studies of our schools, which are truly designed to *assist* these operations, are actually made to *exclude* them. The child glides into the habit of accepting words *for* ideas, and thus evades those mental actions which are only to be performed upon the ideas themselves."

A child is old enough to go into a kindergarten at three years of age, because the training it gets there (I mean the genuine Froebel kindergarten) is in the line of its natural development. It has play, society, and discipline all at the same time.

An acquaintance says he means to send his little son to Germany as soon as he is ten years old to some good kindergarten there. He thinks the child could not leave his parents earlier, but he must have the kindergarten training. But you see it can not be the real kindergarten training at that age. For Froebel's "plays" are adapted to the mental necessities of children several years younger. It is good training for a child of any age, but the mind of a child of ten may be already so demoralized by wrong education, that it can get but a small part of the good intended.

JAM AND JELLY.—The fruit that comes from the vines or canes latest in the season makes the poorest jelly. If currants hang long upon the bushes, they lose most of their jelly-making property. They need to be used as soon as possible after gathering. One who desires clear, fine-flavored jelly will not squeeze the jelly-bag if it be of loose material. Fine flannel is best for this purpose, and when this is used some pressure is allowable; but we wish to strain the juice not only free from stems, skins, and seeds, but free from all fine particles.

Sister M., who makes excellent raspberry-jam, and a good deal of it every year, gives me the following recipe as the one she prefers: "One pound of sugar to each pound of berries, and nearly a pint of currant juice. Put the sugar and berries together in a pan over the fire, and with potato-masher or wooden spoon keep mashing and stirring them constantly to prevent burning. When they are well mashed, add the currant-juice, and boil briskly, still stirring it carefully. Just before it actually boils skim it well. Let it boil about three quarters of an hour to bring it to the right consistency. It is best to put it up in cups, bowls, or fruit-jars, as it does not keep so well after being disturbed. Cover the cups with firm paper varnished with white of egg, and pressed closely around over the edges of the cups. Jam should be kept in a cool dry place." Sister adds, in her letter to me: "This is splendid as dessert with Graham mush and sweet cream."

A TOUGH OLD TURKEY.—In the same letter from

which I extract the above recipe, I find something else which may furnish a hint to some one who has a tough fowl to cook:

"There were three turkeys on the place when we came here, also half a dozen hens and a rooster. The gobbler persisted in fighting the rooster, and one day C. thought to separate them by catching the gobbler. J. was using the ax near by, and after a brief consultation the old fighter's head separated from his body. All this was duly reported indoors. Mother and I took him in hand, and gained two nice wings, which are very handy in the kitchen. We soon stripped him of his feathers. He looked pretty tough. He was large, but not fatted to kill, and I thought we should all get tired of turkey before we should get him eaten, if ever he could be cooked tender. After breakfast next morning I put over the wash-boiler with a pail of water, and when it came to a boil laid in the turkey." [Better not tell this to our esteemed countryman "T. W. H.," for I see he does not know that a tin wash-boiler can be made clean enough even for fish-chowder.]

"Just then I weighed him. Sixteen pounds said the scales. For two hours he boiled and steamed. I made ready some bread-and-butter stuffing, moistening it with the water in which the turkey had been boiled, and then baked it two hours more. It made a fine appearance on the table, and six of us did our duty by him at dinner, the children being at school. For the next three days we had turkey once a day, and to-day we had a good 'chicken-pie' of the fragments, with enough left from it for washing-day dinner, for we are not tired of turkey yet."

BABIES TROUBLED WITH CONSTIPATION. — A mother writes to me about her baby, four months old, who has been troubled with constipation for a month past so that she has to give it daily injections. Change its diet. You need not wean it yet, but begin feeding it Graham gruel seasoned with milk. When it is time to nurse it, feed it as much of the gruel as it is inclined to take. It will not take much at first, but that little will very soon correct its bowels. I had the same experience with my youngest nestling. The water injections kept her in health, but I soon saw that her bowels were depending upon that assistance too much, and I tried the gruel with speedy success. I sifted out the coarsest part of the bran with a very coarse sieve, but now I usually take the whole meal, and do not find it too coarse for her. She is very jolly over her gruel. I thin it with considerable milk, but never add sugar, and seldom use salt in it.

Habitual constipation is a result and a cause of disease. The habit can never be overcome by physic. Careful habits in respect to exercise, rest, cleanliness, pure air, and especially wholesome diet, are the reasonable methods of cure. All these things should be carefully looked after in baby's case.

If unsifted Graham seems to irritate the child's bowels, sift the meal. It is still quite different from common fine flour.

[The types made me say in June: "In this region kind household helpers are very difficult to get." It should have been "*hired* household helpers." Kindness is no more scarce in Minnesota than elsewhere. It is almost impossible to hire a girl at all—one at least who would really be a *helper*.]

Another Way to Cook Egg-Plants.

BY MRS. G. A. W. M., TRENTON, N. J.

In your March number of the *Agriculturist* I noticed a short article headed "Cooking the Egg-Plant." Now, of the three ways there given, the first in my estimation is the best; but they need a slow fire and cooking thoroughly. Many persons do not like the taste of egg-plants, simply for the reason that they are not cooked enough or not prepared right. Our family prefer them to meat on a hot summer's day, provided mother cooks them in her old-fashioned way—the way I used to cook them when I was a little maiden at home with my parents. Now I am at the head of my own little family, and I still think I must be at the head of egg-plants when they are being cooked. No one can get them "just as mother does;" either too much flour or not enough spoils them—they want to be "just so."

I take a large-sized egg-plant, leave the stem and skin on, and boil it in a porcelain kettle until very soft, just so you can get it out with the aid of a fork and spoon. Then take all the skin off, and mash it very fine in a bowl (not tin or earthen). Add a teaspoonful of salt, plenty of pepper, a large iron spoonful of flour (when it is cold), a half-teacupful of milk or cream, and three eggs. This forms a nice batter. Now have some butter and lard brown-hot, and drop the batter in with a spoon, as you would fritters, and brown them nicely each side.

My husband would not taste egg-plants before we were married; now he and the children can hardly get enough. Girls should learn the different modes of cooking while they are at their fathers' homes. Alas! too many in these days are brought up young ladies for the parlor, but let them get married, and go into the kitchen to give their orders to Biddy for dinner, and what do they know themselves? Do they know how to tell her to cook such and such dishes? No, no! Sorry I am for the poor husbands of such wives, but you see them every day. I shall instruct all my daughters well in housekeeping, and have the graceful accomplishments come afterwards.

Squash or mashed potatoes mixed the same as the egg-plants are nice fried for breakfast.

Best Way to Prepare Salt-Fish Dinners.

BY MRS. W.

Cut the fish in rather small pieces, wash it thoroughly in warm water, and leave it in cold water over night. Early in the morning remove the skin from the pieces, wash again, and put them in cold water over a fire, and let come very gradually to a boil. Then remove the vessel farther back on the stove, and let it remain at an almost boiling point. Actual boiling hardens the fish. Change the water once during the process, adding hot water; keep it at the same temperature, letting it boil only once for a few minutes when nearly done. While the fish is cooking, pare nicely as many potatoes as necessary, removing carefully every imperfection from the surface, and put them as fast as pared into cold water, with a little salt in it.

Boil in separate utensils small onions, beets, or parsnips if in season. Put the potatoes into boiling water half an hour before dinner-time, add a little salt to the water, and do not let them remain covered after they are fairly boiling. While the vegetables are cooking, remove the fish from the water, carefully take out every bone, and with a sharp chopping-knife mince the fish to an even fineness throughout, then put it into a deep dish, add to it half a cupful of hot water with a little butter melted in it, cover closely, and place in a hot oven until dinner is ready. Prepare drawn butter for sauce, being careful not to let the butter boil, as it will become oily. Boil eggs hard, if they are liked. Some persons prefer the eggs added to the melted butter, cut in circles; others add them to the fish as they prepare it on their plates. When the potatoes are just done (not too soft), pour off the water, take the kettle to an open door (where the wind is blowing) and mash with a wooden pestle.

Replace the kettle on the fire, and do not cover it. The potatoes will keep hot and nice for one or two hours, if necessary. When dinner is served, place the dish of fish and the hot potato on the table the last things. For dessert after a fish-dinner a deep apple-pie without an under-crust is most suitable, or ripe apples, if in season, are better still.

If those who dislike fish-dinners because they are troublesome in the preparation, and doubly so in the serving at table, especially where there are children to be served, will try this way, they will find there is no trouble or annoyance at table, as all is hot and easily served, and it becomes a dinner desired by all members of the family.

Domestic Coloring.

A lady, whose address we have mislaid, sends the following: "Some one has asked about coloring. Here is a recipe to color orange: Take copperas a half-pound, and two large heaping spoonfuls of salsoda. Dissolve in two separate dishes of warm water. Wring the material out of the copperas solution, and then through the soda, and hang it out to air. Let it air a short time, then wring again as before, until the cloth has passed through the liquids three times. It will make cotton cloth very bright if done in a sunny day. This colors several pounds.

"The bark of the common yellow willow, set with copperas, and colored in an iron vessel, makes a permanent slate color on cotton. It is very useful for coloring linings, cotton stockings, etc."

Washing by Dog-Power.

BY MRS. E. J. JOHNS, DYBERRY, PA.

I have been reading in the February number of the *Agriculturist* about "How we Live at our House," and I thought I would write you how we wash at our house. You advertise Doty's Washing Machine, but you do not tell your readers that it can be made to run by dog-power. I have Doty's washer, and also a churning machine, and when I wash I attach the handle of the washer to the churning machine by a pitman. My husband says it works like a saw-mill, but suffice it to say the dog does the work. The difficulty with the washer is, it is hard work to operate it by hand, so hired help say. By using the dog this labor is done away with. I wash my clothes in boiling-hot suds, and they look white, even if they are washed by a *black* dog. I can do a washing for a family of seven in two hours or less. I write this in hopes it may reach some weakly woman who has a large family, and finds it difficult to get along with her work.

VASES OF FLOWERS.—What horrid things some of the florists do give us in the way of bouquets! They pack the dear little flowers so close together, such crowds of sweet faces massed, that you can not half-enjoy any of them. I should think that any one who really loves a flower would do it better justice. Each fine blossom or cluster of blossoms ought to have some quiet background, to set it forth. Green foliage, in delicate sprays or handsome leaves, is according to nature's general plan.

I remember the exquisite little floral ornaments in that pleasant sitting-room of the B.'s. Shells of various kinds were made to do duty as vases, here a few geranium-leaves, with rosebuds or pansies in a shell turned up, so as to hold water enough to preserve the flowers, and there a cluster of sweet-pea blossoms, with foliage of some light, graceful character.

One handsome lily, with leaves, is often quite enough for a flower-vase. I was not more than half a score of years old when I saw two vases of flowers on a mantel, which pleased me better than anything I had ever seen before, and their memory is still pleasing through all the years since that time. The vases were tall, old-fashioned wine-glasses, and the flowers were only nasturtiums, a spray in each, with their brilliant flowers, odd-looking leaves, and smooth, curling stems.

We want some large, wide-mouthed vases and some big bouquets when flowers are plenty. Some large vases we must have for the children to fill.

Some flowers have such short stems that they can not be managed in bouquets without they are furnished with artificial stems of wire or straw. Hollyhocks and Balsams are of this kind. The best way to arrange these is in a plate of clean wet sand. Use plenty of ferns or green leaves with the flowers. R. L. F.

BOYS & GIRLS' COLUMNS.

The Doctor has a Word to Say.

My Dear Children: Since those last prizes were awarded, I have been too ill to attend to any business. Now I do not wish any of you to whom prizes were awarded to think that I have neglected you, and I hope that if any boy or girl has been overlooked, he or she will let me know at once. I always try to send such things very promptly, but what can one do flat on his back with fever? So be patient, my dear little ones. We will have more prizes when the weather gets cooler, and I will try that there shall hereafter be no delay on my part.

THE DOCTOR.

The Little Swiss.

ONE OF THE PICTURE STORIES.

[All the boys and girls saw the pictures in the March number, and the offer of prizes for the best stories suggested by them. The award of prizes was made in June. Several have written to ask me to publish some of the prize stories. I will comply so far as to publish what I, or rather we, thought the best of those written by the boys. I say "*we*," because there always is a family council over these prize matters. The council consists of Aunt Sarah—to her face we call her by the more homelike name of Aunt Sally—the "young Doctor," and the old fellow himself. After reading and re-reading, we all three concluded that this story, by Cyrus D. Chapman, of Irvington, N. J., showed more originality than any other, and we gave him the first prize.—THE DOCTOR.]

Far away, many hundreds of miles from this country, among the grand and beautiful Alps of Switzerland, lives a little Swiss boy. His name we will call Guillimot. His mother lives in a little cot at the foot of the Alps. Little Guillimot's father is dead. His mother supports herself and little boy by selling milk in the Swiss village some two miles from their cottage. Their goats always furnish a good supply—enough for themselves and their customers in the village.

Guillimot was a very thoughtful boy, and one bright summer's day he put on his thinking-cap, that he might find something to do by which he could help his mother and lighten her labors, for his mother was very poor, and she got very tired carrying the milk so far. All at once a thought popped into his head. He had five pretty hens, which were given to him by his grandmother. They laid him three eggs every day, so he thought he would take his eggs (he had three dozen now) to the village. It was a pretty long walk, for he was only six years old, but he was healthy and strong. So he got his little basket, and putting his eggs into it, started off on his journey (for it was a journey to him), with his faithful little dog trotting along before him. By and by he came to a little mountain brook that ran merrily over the pebbles on its way to the lake of Geneva. Guillimot sat down on a stone to rest, for he was getting tired, and putting his feet into the water was soon refreshed, and resumed his journey, arriving safely at the village, where he had been once before with his mother. He found a ready sale for his eggs, and returned to the mountain cot feeling very proud and rich, with fifty cents held tightly in his hand, and sitting down on the door-steps, quite tired out, dropped asleep with his head pillowed against his faithful little dog, who sat very still, lest he should awaken his little master.

As Guillimot slept, he had this most wonderful dream: A beautiful little being, clothed in the finest dress, made from the wings of flies, appeared before him. Little Guillimot looked with surprise and wonder. He knew it must be a fairy, for his grandmother told him about the fairies that used to live in the valleys long ago, so he was not frightened very much.

The fairy said in a voice of music: "I am the queen of the fairies; now, because you have been a good boy, I will give you whatever you wish."

Little Guillimot thought one minute, and then he said: "O good fairy! make me a big strong man, that I may help my mother, so she need not work so hard."

Instantly his wish was gratified, and Guillimot found himself a great strong man, able to do almost anything.

Just as he was preparing to go to work, somebody touched him lightly on the cheek, when he awoke, and starting up he saw his mother, looking very tired. Then he said: "O mamma! I had such a pretty dream. I wished I was a big strong man, so you need not work so hard, and a good fairy gave me my wish. I was just going to work for you, and now I am only a little boy. But, mamma, here are fifty pennies; I sold my thirty-six eggs for you, and if I can not be my mother's *big man*, I can be your *little man*."

The mother clasped her child to her bosom, thankful to God for such a good little boy.

Do as I Do.

This game, if properly managed, must be a very amusing one. The following account of it comes from Miss Mary A. Hutchings. A company of children sit in line. One, the leader, sitting in front, begins the game by moving the right hand up and down, and saying, "Massa sent me to you, sir." The first in line answers, "What for to do, sir?" The leader replies, "Do as I do." Question and replies are repeated until all have their right hands in motion.

2. The leader, moving both hands, asks the same questions, getting the same replies, until all have both hands in motion.

3. The leader lifts the right foot up and down until all have their right feet moving, meanwhile asking question and getting the same replies.

4. Leader moves the head, then opens and shuts the eyes, and lastly the mouth. By this time the scene is so ludicrous that all are unable to keep from laughing any longer, and the game is suddenly brought to a close.

Aunt Sue's Puzzle-Box.

DIAMOND PUZZLE.

The center letters—perpendicular and horizontal—will give the name of a man distinguished for virtue.

1. A consonant.
2. An oily substance.
3. Part of a house.
4. Rumor.
5. An ambassador who repudiated the presents of Pyrrhus.
6. Not clear.
7. A glass vessel.
8. A bird.
9. A consonant.

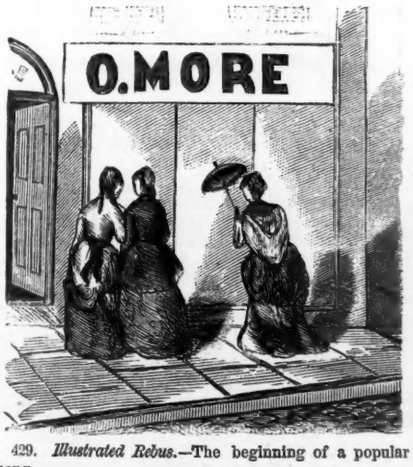
R. T. ISBESTER.

PI.

A tleffur petrem liwl ivedid
Het solcets ontk hatt yam eb diet,
Yb salescees harps socroinos.

OTIS A. GAGE.

428. *Illustrated Rebus.*—An ornithological couplet.



429. *Illustrated Rebus.*—The beginning of a popular song.

ANAGRAMS.

1. O Pat! pies.
2. Ida, let's put.
3. I spite a sad son.
4. Dust up nose.
5. I melt air, Sam.
6. Silent sea.
7. Set fiber.
8. Set it duet.
9. Lure dun, Dave.
10. Ran in codes.

NUMERICAL ENIGMAS.

1. I am composed of 21 letters:
My 15, 3, 12, 20, 14, 18, 3, is convenience of time.
My 10, 11, 7, 13, 3, is a girl's name.
My 21, 5, 2, 3, is a great destroyer.
My 6, 9, 21, is an animal.
My 13, 1, 19, 8, is a man mentioned in the Bible. (I never heard of a child being named after him.)
My 17, 20, is a pronoun.
My 16, 4, 19, 2, is to shave.
My whole is much valued. SNICKER.

2. I am composed of 7 letters:
My 1, 2, 4, is something that the young ladies wear, though they would not give it that name.
My 6, 7, 5, is a number.
My 3, 6, is a verb.
My whole is a bird. BAYARD W. P.

COMPOUND ARITHMOREMS.

(Transpose the word in Italics, and add it to the Roman numeral to make the original word, e. g. "1000 and *tea*;—consumed every day."—*Meal.*)

1. 50 and *map*:—a household article.
2. 100 and *pea*:—geographical.
3. 50 and *beat*:—a piece of furniture.
4. 1000 and *teas*:—much used in factories.
5. 100 and *at*:—high.
6. 501 and *me*:—a coin. HARRY.

CROSS-WORD ENIGMA.

My first is in hatchet but not in ax.
My next is in hammer but not in tacks.
My third is in lie but not in untruth.
My fourth is in Clara but not in Ruth.
My fifth is in wake but not in sleep.
My sixth is in hog but not in sheep.
My seventh is in boots but not in skates.
My whole is a city in the United States. W. E. W.

SQUARE WORDS.

1. Square the word "FATE."
2. Square the word "PLAN." SCIENTIFIC.

BLANKS.

(Fill the blanks with words pronounced alike but spelled differently.)

1. They do not ——— to accept him because he ——— tobacco.
2. One of the soldiers belonging to the ——— threw the apple ——— away.
3. The lovely ——— was ——— by many.
4. The ——— was hung upon the ——— to dry.
5. In the ——— he intends to put all that he ———.

R. T. ISBESTER.

ANSWERS TO PUZZLES IN THE JUNE NUMBER.

RIDDLE.—Murmur.

ANAGRAMS.—1. Unwarrantableness. 2. Confederation. 3. Nomenclature. 4. Indefensible. 5. Indoctrinates. 6. Endorse. 7. Ineffable. 8. Flatteries. 9. Habituate. 10. Inchoate.

ARITHMOREMS.—1. New York. 2. Boston. 3. Albany. 4. Saratoga. 5. Monkey. 6. Doctor. 7. Grant.

DIAMOND CROSS-PUZZLE.

A
AMO
INERT
AMERICA
STICK
ICE
A — America.

EQUIVOCAL WORDS.—1. Address. 2. Base. 3. Board. 4. Boot. 5. Brake.

NUMERICAL ENIGMA.—Washington.

PI.—Be slow to promise and quick to perform.

AUNT SUE'S NOTICES TO CORRESPONDENTS.

F. C. R.—I am curious to know what you mean by sending such a ridiculous "square word." Each word must be perfect in itself, and not such rubbish as "CREAYE," "LUSYRE," "ESYEEM."

MARY VAN EMAN.—Answers must always accompany the puzzles sent to me for publication. I am glad the explanation assisted you.

KATIE.—Let us suppose you want to make a cross-word on your own name. Get your slate and write down five figures perpendicularly; then the letters of your name. then find words to suit. For instance, your first letter is K; well, K is in *bark* but not in *bite*; that will give you a good start. Now I will show you how to write them down:

1. K—bark—bite.
2. A—dark—light.
3. T—cat—dog.
4. I—pig—hog.
5. E—sea—foam.

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THE LITTLE FISHERMAN.—DRAWN BY CARY.—*Engraved for the American Agriculturist.*

It will be easy enough to fill in the other words:—

"My first is in bark but not in bite.
My next is in dark but not in light."

Then you can finish with:—

"My fifth is in sea but not in foam;
And my whole is the name that they call me at home."

Now do you know "how to work those cross-words"?

L. T.—I am afraid if I gave you their names and address you might write to them, and set them a bad example in spelling, grammar, and politeness. If I should publish your letter just as you wrote it, I think you would be rather "a shamed of it" yourself.

L. A., DES B.—I will publish your "enigma" in the *Agriculturist*; it is "against the rules" to allow the same puzzle to appear in this paper and in *Hearth and Home*. The rebus is too simple and palpable. But thanks for your trouble in sending them. The "conundrum" is very old but very good.

Thanks for puzzles, letters, etc., to Katie, M. Van E., Phiz, Laura V. M., James T. H., and Robt. W. M.

Going A-Fishing.

We suppose that it is as natural for boys to go a-fishing as it is for them to eat; and if there is anything that comes easier to boys than eating, we should like to know what it is. If a boy lives anywhere near a stream or pool of water, be it fresh or salt, and if there be any finny inhabitant of that water, be it minnow or pickerel, the boy will have a try at it. He will go a-fishing whether he catches anything or not. Our youngster in the picture looks altogether too much dressed to make a successful fisherman. He is probably the son of some city parents who have gone to the country for the summer, and he is trying his luck in a half don't-care way, that makes us think that, whatever present success has attended his efforts, he will never make a fisherman. If one would catch fish he must give his mind to it, and exercise all his ingenuity. This is what makes us approve of allowing boys to go a-fishing; they learn that to accomplish a certain end—the catching of fish—they have got to think. They must, in the first place, know the habits of the fish they are after, whether they are to be caught at the bottom with dead bait, or near the surface with what appears to be a live bait. They must learn enough of the habits of the fish to know upon what they feed, and what part of the stream they frequent, the time of day they feed, and many other things that teach them a great deal of the history of fishes. Some fishes can only be caught in deep water, others hide in holes along the banks and at certain times come out to feed, and others can only be caught by presenting to them what appears to be a living insect. It is not rare to see two boys, or men, fishing together, and one will take a plenty of fish, while the other catches none at all. They will tell you that it is a difference in luck, but the real fact is, that the successful one knows or has accidentally hit upon the habits of the fish. A few inches more of line below the float, or a little different arrangement of the sinker, will make all the difference between "luck" and "no luck." The successful fisherman or fisherboy must learn the ways of the fish. One outfit of the fisherboy is more important than silk lines, improved floats, gut snoods, or even "silver-spinners." Do you wish to know what it is? It is a very home-made article, but it is better than all the fancy artificial flies, better than lancewood rods and multiplying reels—it is the good old-fashioned virtue, *patience*. There is an old saying, "If you swear, you will catch no fish." Now we don't believe that any of our youngsters would swear on any account, fish or no fish, but there is a kind of impatience which in persons who know no better finds vent in swearing, and in others in rude acts, which, if not so wicked, are almost as improper as swearing. *Patience* should be the ever-present motto of the fisherman, and it is really the great lesson taught by fishing. If you have no luck—patience. If your hook gets caught by a sunken tree—patience. Are you fishing with a friend and your lines get apparently hopelessly tangled, only that good old-fashioned patience will help you out of the scrape. So, then, we like to have our boys go a-fishing, if they will take to it the right way, and accept all the lessons that it will teach them. It will give them abundant opportunities to control themselves—the worst thing they will ever have to control—and to learn the value of patience. Some parents do not like to have their children catch fish, because it seems cruel. Naturalists tell us that the fish, when he comes from the water into the air, experiences the same sensations that a land animal does when put into the water. Those who have been restored after being apparently drowned, say that the sensation of drowning is a pleasant one, and we may infer that the fish, when taken from the water, experiences no pain. Fish were evidently made to be eaten, and if we exercise no unnecessary cruelty in capturing them, we need not fear that we are doing wrong.

A Railroad Watch.

Travelers by Railroad frequently find their watches completely demoralized by the continuous jar of the train. To overcome this difficulty has long been a problem with watchmakers, and it is now successfully accomplished in the new grade made by the

American Watch Co. of Waltham.

This Watch is made in the most substantial manner, on the most approved principles, and combines all the recent improvements. It has a new micrometrical regulator, by which the slightest variation can be easily corrected. It is carefully adjusted, and may be entirely relied on to run accurately, wear well, and ENDURE THE HARDEST USAGE, without any derangement whatever. We confidently recommend this watch to the trade and the public as the BEST WATCH FOR THE PRICE IN THIS MARKET.

The full trade-mark engraved on the plate of each watch is "AMERICAN WATCH CO., CRESCENT ST., WALTHAM, MASS.," and it is distinctively known as the CRESCENT-ST. Watch.

For sale by all leading Jewelers.

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Every Prudent Man Careful of the health and comfort of his family should see to it that his drinking water is conveyed through Tin-Lined Lead Pipe, which is a perfect safeguard against lead poison, the too often unsuspected cause of disease and death. Tin-Lined Lead Pipe is strong, durable, flexible, and easily soldered. It is a great benefit to the community, and enhances the real value of every house in which it is introduced. Sold by the COLWELLS, SHAW & WILLARD M'F'G Co., 213 Center street, New York. Price, 15 cents a pound for all sizes. Circular and sample of pipe sent by mail free. Also manufacturers of Lead Pipe, Sheet Lead, Block Tin Pipe, Solder, etc. Orders filled at sight.

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TRY IT. SOLD BY GROCERS.

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The Tribune Buildings have been covered several years with the Asbestos Roofing, which has proven entirely satisfactory. We prefer it to Tin.—EDS. N. Y. Weekly Tribune, May 8th, 1872.

Johns's Asbestos Roofing is light, strong, and practically fire-proof; is kept in order at a very trifling expense, and will last many years.—EDS. *American Agriculturist.*

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CARBOLIC SOAPS
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Saponaceous Compounds
OF
Carbolic and Cresylic Acids.

Disinfectant, Insect Destroyer, Preventive of Fungus, etc.

We have watched with great interest the results of various applications of these compounds, knowing that if successful, they would be of incalculable benefit to the community. By tests made under our own supervision, and the reports of careful observers, we believe it to be established that these Cresylic Compounds are

1st. Complete Disinfectants.—They not only remove all noxious odors from sinks, privies, stables, etc., but will destroy all infection in clothing, rooms, etc., washed with their solution. Thus, contagion from Small-Pox, Typhus Fever, Cholera, and other diseases, may be effectually prevented. They are used in the New York and other Hospitals for these purposes.

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Desiring that our readers should be benefited by the extended introduction of what we believe to be so valuable, we have established a general agency for the sale of these compounds, keeping them constantly on hand, and are prepared to fill orders at wholesale or retail, at the following prices.

Sheep Dip, *for Curing Scab and Destroying Insects on Sheep.*

5-lb	Canisters, $1.75;	per dozen	$15.00
10 "	" 3.00;	" "	27.00
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Proportions are 1 lb. Dip to 5 gallons water for 5 to 10 Sheep, if they are *very large and heavily fleeced.* For ordinary-sized animals, or those recently shorn, 1 lb. Dip will take 8 to 10 gallons water. The solution must be graded according to the age and condition of the animal.

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Address orders to
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National Industrial Exposition.

THE BOARD OF COMMISSIONERS ANNOUNCE THAT THE

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WILL BE OPEN FROM

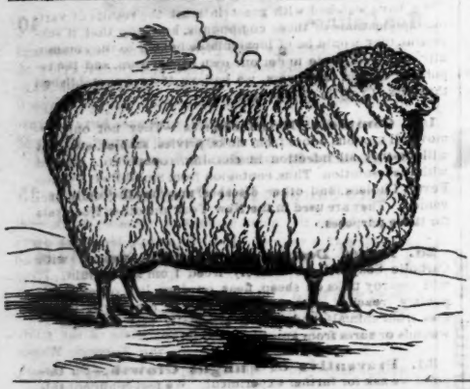
Sept. 4th to Oct. 5th, 1872. Goods will be received from Aug. 14th to 31st.

The Sixteen Grand Departments have been greatly extended, and the Exposition will be the

LARGEST EVER HELD IN AMERICA.

The extensive transportation arrangements for visitors will largely increase the unprecedented attendance of last year.

Exhibitors should make immediate application for space. Rules and Premium List furnished on application.



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I am now prepared to book orders, and fill in rotation, Spring Buck and Ewe Lambs, also a few Yearling Bucks and Ewes, all sired by Imported "Diamond Fleece," out of Imported Ewes, amongst which is a pen of yearlings which received first prize at the Royal Agricultural Society, at Oxford, England, 1870.

"D. F." clipped 18 lbs. of clean washed wool—twelve months' growth. Address

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For crossing with common sows or with the large breeds, there is nothing superior to a highly refined thorough-bred Essex. Read the following:

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The Essex pig I received from you has grown finely, and given perfect satisfaction. I have this fall slaughtered four grade Essex that averaged 302 lbs. each. One weighed 325 lbs. alive, and dressed 280 lbs., making 86 2-13 per cent of his live weight. They were eight months and eight days old the day they were slaughtered.

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The Essex pig I got from you is growing finely, and I am well pleased with him. W. CLIMER.

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The Essex sow I got from you is doing splendidly. She is admired by all who see her. I think she is the handsomest pig I ever saw—and I have seen a great many.

IRVINE McCARTNEY.

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L. J. BENTON.

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I am breeding Essex pigs with great care, and selling them at reasonable rates. They give good satisfaction. Orders promptly attended to. Address

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Jersey Cows, Heifers, and young Bulls.
Ayrshire Cows, Heifers and young Bulls.
Guernsey Bull, 2 yrs. old, very fine.
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Perfect pedigrees given with all thorough-bred stock, which may be seen at my farm (Herdsdale), Florence, Mass.
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WANTED—American Deer and Fawn.

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Four and five year old Apple-trees. One-year-old Peach-trees. Pear, Plum, and Cherry-trees and Apple Seedlings.
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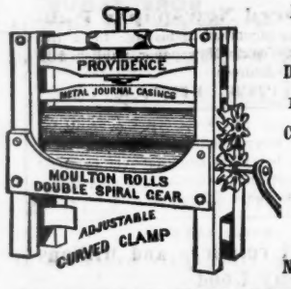

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Pure White Winter-Wheat.

All things considered, and on good, clean, rich, dry land, the DIEHL is the best variety of WHITE Wheat now grown. The straw is very stiff, the head very plump and full, and the yield on good land eminently satisfactory. The greatest difficulty we have experienced with it is to get pure seed. It is almost impossible to find it unmixed with Mediterranean and other red varieties. For some years past, many readers of the *American Agriculturist* have written to me for seed, but I have never been able to get any that I thought pure. I have now, however, the pleasure of stating that I raised this year ten acres of DIEHL WHEAT that is the PUREST I have ever seen, and I can send it out with confidence.

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I will send by express or as freight, at the following rates:

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Fresh Bone Superphosphate of Lime, or Dissolved Bone. Send for Circulars.

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On which are **ONE THOUSAND MILLIONS OF PINE TIMBER**, and inexhaustible quantities of Maple, Beech, Elm, Ash, Hemlock, Oak, etc.

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500,000 STANDARD PEAR TREES, at greatly reduced rates. Also, a general line of Nursery Stock. Write for Price-list.
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1,500,000 ACRES

OF THE

RICHEST FARMING LANDS

IN THE WORLD,

For Sale to Actual Settlers,

NEOSHO VALLEY, KANSAS.

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CARS NOW RUNNING 500 MILES.

The Lands now offered by this Company are mainly within **20** miles of each side of the road, extending **170** miles along the NEOSHO VALLEY, the richest, finest, and most inviting valley for settlement in the West.

PRICE OF LAND.—$2 to **$8** per acre; credit of ten years' time. For further information, address

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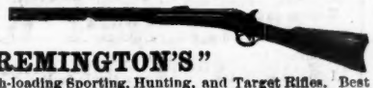

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Cut this out and send for Illustrated Price-List.

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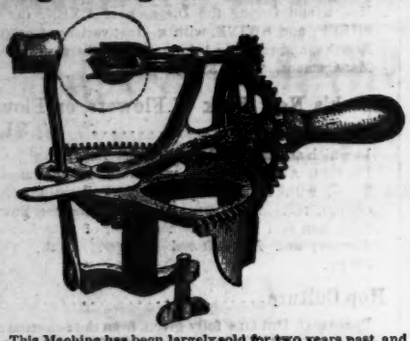

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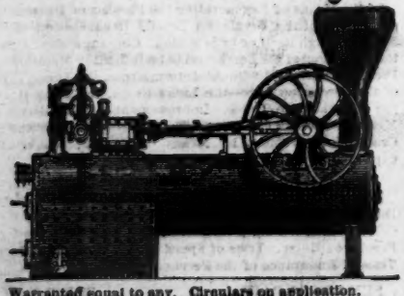

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Condensed Agricultural Items.

There are sixty-one starch factories in the State of New Hampshire, and over three thousand tons of starch were made last season from potatoes alone.....Western farmers have quite an easy time on their prairie farms; just now they are fighting the potato-bug, the chinch-bug, cutworms, wire-worms, army-worms, gophers, ground-squirrels, meadow-moles, grasshoppers, locusts, and are looking out for fighting fire by and by.....J. C. Allison, of Missouri, sheared an average of nine pounds of wool per head of his flock of native sheep. W. L. Victor sheared 154 pounds from 15 Cotswolds, which sold for $77.....Extensive cattle-yards are now building at Atchison for the Atchison, Topeka, and Santa Fé R.R. .....E. L. Davidson, of Kentucky, has sold twenty-eight young Shorthorn bulls to Mr. Guthrie, of Montana..... Corn and cotton promise to yield very abundantly the present season. .....At Col. King's sale of stock at Minneapolis, thorough-bred Ayrshire bulls sold for $63 and cows at $122.....Thomas Jackson, Chautauqua Co., N. Y., made 373 pounds of butter from 35 cows in seven days.....Hiram Thayer's cow (of Carroll, N. Y.) lately produced three calves at a birth, and all are doing well. .....The farmers of Hannibal, Mo., get their fun by means of ox-races held weekly through the season..... Prairie-schooners still navigate the plains of Nebraska. The present summer large numbers of these emigrant wagons have been seen, mostly accompanied by more or less stock.....In Iowa, the average wealth of the State is $601 for each individual.....Plowing up fall wheat in the spring has not been profitable in Kansas this season. Those who permitted their wheat to grow have gathered a much better harvest than they expected.....In Cowley Co., Kansas, a premium of $5 is offered at the Agricultural Fair for the best baby.....At Ottumwa, Iowa, an Artesian well seventy feet deep discharges at the surface a stream of pure water equal to one gallon per second. .....The Illinois farmers near Freeport are growing sugar-beets for a new sugar-factory lately established there, and are to be paid $4.50 per ton for them.....In Illinois, on farms worth $60 per acre, wheat costs 91 cts., corn 21 cents, oats 26 cents per bushel, and hay $4.75 per ton.....The Champaign Co. (Ill.) Farmers' Club offers $100 for the best thirty acres of corn raised this season in that county .....The sheep in California have doubled in number since 1869. There are now in that State eleven millions of them.....A man in Illinois has counted up the Canada thistles in that State, and finds they cover exactly ten thousand acres.....A New Hampshire farmer who soils his cows believes millet to be the most profitable fodder crop he can raise.....Plant walnuts and chestnuts; they are by far the most profitable trees for all uses a farmer can raise.....Hops are looking well in this country, but are not very promising in Europe. .....Wisconsin raises more hops than any other State. .....Osier-raising and basket-making is now becoming a favorite specialty with some farmers.....A farmer who can not make a good living on his farm, should hire out with a good farmer and learn how *he* does it.....Early Rose potatoes appeared in the Kansas market on June 8th..... The "Heathen Chinee" wants 50,000 tons of our cheese every year after this.....A great deal of poor American cheese is sold in England for hog feed; so says an English paper; if so, why do our dairymen make such cheese, and such a reputation along with it?.....Cistern-water may be kept free from insects and leaves by having a strainer of wire-gauze on the inlet pipe.....Chain-pumps and water-drawers serve to aerate the water of cisterns and improve its flavor for drinking purposes.... Horace Greeley has a lot at Greeley, Colorado, which he has caused to be planted with walnuts, chestnuts, and hickories successfully. It is now more than probable that all these nuts can be grown in Colorado, but Mr. Greeley's perseverance should have due credit.....Montana claims to have produced the largest crops of wheat ever harvested in any country; oats, rye, and barley yield bountifully, and all varieties of grass flourish surprisingly, while the crops of roots of all kinds produce enormously.....There are eighteen millions of fertile acres waiting for occupiers in Montana.....Minnesota is fourteen years old, and has a population of half a million; there is room for more yet.....In California they claim that fifteen sheep can be fed on an acre of Alfalfa—their name for lucern.....At Bakersfield, Cal., an irrigating ditch, eight miles long, twenty-four feet wide, and three feet deep, was dug by a co-operative colony of farmers in six weeks. It waters sixteen thousand acres of land, and runs a grist-mill .....It costs $10 per acre in Tulare Co., Cal., to prepare the land for a vineyard and plant the cuttings; at seven years old, the grapes will produce 1,000 gallons of juice per acre, worth $200..... In Tulare Lake, Cal., the hogs wade out half a mile in shallow waters, and dig clams and mussels.....In an English agricultural paper, it is stated that "the wretchedest being under the canopy of heaven is an English agricultural laborer," which is stating the thing strongly certainly.....The Mark Lane Express, an English paper, says when cows are fed high the milk product increases, but it soon begins to decrease, and no amount of feed avails to keep up the quantity.... .The root crop of England is being largely increased by steam cultivation, with the curious effect of increasing the production of brandy, which is made from the surplus potato crop; sixteen million bushels being thus used.....Steam-plows are used now quite largely in Germany, and it is said that the average of the crops of barley is already considerably increased by their use... ..The system of summer-fallowing is now going out of use in England. The farmers, to pay their high rents, are obliged to keep more stock to make more manure, and keep their land in continual cultivation.

At a farmers' meeting at Durham, N. H., Mr. Bedee, of Fremont, said one load of fine manure at the surface was worth three loads covered nine inches deep; he uses 800 pounds of ground bone per acre when seeding down.....In Boston ripe timothy hay from Illinois has sold for $26, and unripe, or that from which the heads will not strip, at $32 per ton.....In Pennsylvania the deep milk-pans have long been in general use, and experiments with shallow pans have shown that deep setting is far more profitable; the pans or crocks used are of the common red earthenware.....A pound of peat freshly dug contains fourteen ounces of water. A cord of peat therefore contains only one eighth of its weight, or five hundred pounds of dry matter.....Vermont produces more beans than any other State.....A Massachusetts farmer made a profit of $42.25 from a dozen light Brahma fowls last year; they consumed in that time 31 bushels of grain and 60 pounds of scraps..... The farmers of Rutland, Vt., lately tarred and feathered a peddler who had come on a swindling tour in that neighborhood.....Horace Greeley will deliver the address at the next State fair in Vermont.....Mr. Whitman, of Fitchburg, Mass., has imported five valuable Shorthorn heifers from a noted English herd, for the purpose of improving his own stock.....A Pennsylvania farmer has found the capital invested in draining to be returned every five years in the increase of his crops.....Dr. Warder, of Ohio, lately stated that he had planted some land in locust timber fifteen years ago, and had sold last year from one acre 4,000 fence posts at twenty-five cents each, clearing $1,000 from that acre.....Col. Sweet, of Paris, N. H., seven years ago put 160 bushels of ashes on an acre and a half of grass land, and has mowed an average of a ton and a half per acre every year since..... A farmer of South Hadley, Ct., is the owner of a sow two years and a half old, which has produced and brought to maturity forty-one pigs, and now has a litter of twenty, all doing well.....A turkey killed by D. O. Fisk, of Shelburne, Mass., at seven months old, weighed twenty-one pounds.....A sandy farm is sometimes a valuable one; such a one at Red Bank, N. J., was lately sold to the United States Government for $35,000 on account of the immense quantity of sand it contained.

Henry Dow, of Pittston, Maine, has a pair of oxen which weigh, in working order, 4,600 pounds; they draw usually at a load two and a half cords of green wood on a pair of sleds, and often, when the roads are good, three cords....A farmer in Lichfield, Maine, lately killed a sheep whose four quarters dressed 154 pounds, and the tallow weighed 80 pounds tried out....Isaac Rowell, of the same State, has fed during the past winter 100 grade merinos on hay morning and night, with twelve quarts of corn at noon, salt and ashes always at hand, and running water in the yard constantly; they came out this spring in good condition....E. S. Wood, of Pomfret, Vt., made from three grade Jersey cows in one year 900 pounds of butter....A heifer owned by S. Hills, Windsor, Ct., now weighs 3,000 pounds, and is still growing..... H. S. Porter, of Connecticut, has used 2,200 pounds of guano on an acre of tobacco, the tobacco was bad quality; with 3,000 pounds of barley meal per acre the quality was superior....G. F. Beebee, of New Hampshire, sows millet in July on a plowed sod, and cuts two tons of fodder per acre in September; he thinks it the cheapest feed he can raise....Dr. Dana, of Lowell, Mass., thinks he has found by observation that a cow in consuming one ton of hay makes one cord or four and a half tons of solid manure....A cow in the course of a year produces ten tons of solid and four tons of liquid manure....In a sale of fourteen head Shorthorn stock in Massachusetts, the average price was $330; in Illinois, the average of eleven head was $520, and in another sale the average of twenty-one head was $278....Mr. Chenery, of Boston, Mass., has sold in all forty-two head of Holstein cattle at an average of $730....Joseph Harris, of Moreton Farm, Rochester, N. Y., has sold to parties in fourteen States 73 head of Essex pigs for $2,605, or an average of over $35 each.....Shephard & Alexander, of Charleston, Ill., report sales of 387 head of Poland-China hogs at an average of $27.50....Some years since a breeder of Berkshire swine defined pure-bred animals of that breed as those having three white feet and three white hairs in the tail.

The best crop of rye last season was grown in Massachusetts. It produced 54 bushels per acre.....The experience of many fancy farmers is summed up in that of one who said his cattle ate up his crops, and his hired men ate up his cattle.....Make a roller; all crops are improved by rolling at the proper season—winter grain and meadows in the spring, and sown crops immediately after sowing... ..It is economy to feed Western corn on Eastern farms; it enriches the manure, and when, as now, it is equal in price to hay, in many places, money is made by buying corn and selling hay.....Six thousand acres of tobacco were grown in Rock Co., Wis., the past season.....A Western farmer has come to the conclusion that wheat when injured produces chess and chess produces timothy. The same man believes mules will breed together. A few more discoveries of this nature will make him famous.....The heaviest lot of hogs in the Chicago market at any time was marketed January last; they amounted to 100 head, averaged 528 pounds, and were fed by one feeder in Page Co., Iowa.....J. Whang, Maine, thinks 12 hens equally profitable as one cow. He cleared $36 last year from a dozen fowls, and from three turkey-hens, in two years, cleared $147.....A farmer at Fort Scott, Kansas, has a grove of soft maples on his farm, one year from seed, which are four feet high..... In New Hampshire, farms are being deserted very rapidly; a traveler, in passing twenty-six miles on a main road, saw twenty-six deserted farm-houses.....Miss Fanny Campbell, of Bozeman City, Montana, has entered 160 acres of land, fulfilled the conditions of settlement, got her deed, and is farming successfully. Miss Ray, of the same place, raised on her farm 60 acres of wheat last year.....The prospect of a large yield of wheat this season in California is excellent. Generally in all other localities reports of serious injury are current.....The wool crop of California last year amounted to over twenty-four million pounds.....A lecturer at Cornell University recommends a variety of grasses in seeding meadows. English farmers often sow as many as twenty-six varieties when laying down pastures..... A meadow irrigated by running water is said to be double the value of one irrigated by flooding, a flooded one double the value of a rich loam not irrigated..... A speaker at a farmers' club said if farmers determined to stick to their farms and fight it out on them, there would be fewer makeshifts to be seen, and more improved farms.....At a New York State agricultural meeting, T. S. Gold said, "For the production of milk from an equal amount of food, the Ayrshire cows stood first. Dutch cattle were enormous eaters, although good milkers." Mr. Goodale had an Ayrshire cow which gave forty-seven pounds of milk per day. Another speaker said the use of machines saved a great amount of time to a farmer, which he could use profitably in considering how he could improve the productive capacity of his farm.....At the Orleans County (N. Y.) farmers' meeting, Mr. Smith said the laws of New York did not compel a farmer to fence his farm. He thought the appearance of the country would be improved if fences were abolished. Judge Sawyer said if this were done and grass grown to the edge of the road, and mown, the production of weeds would be reduced very much, if not altogether prevented. Mr. Tripp thought in such cases the road-sides could be planted with fruit profitably, as cattle would not then destroy them. A. Onderdonk said it would pay a farmer better to pasture a cow for a poor villager free than have it on the road.....The calf of a cow that has been kept poor all winter will never make a good cow....A Vermont farmer says sheep are the most profitable stock he can keep; hay fed to sheep has brought him $18 a ton in wool and lambs, while that fed to cows yielded only $11, and there is less labor in sheep-raising than in dairying.....W. M. Place fed eighteen hens with sour milk mixed with meal (in winter scalded). They produced, in the year, a profit of $50, besides eggs and chickens used in the family.

An excellent compost for grass-lands is sods, lime, and earth from fences and ditches, piled up for fourteen days, then well mixed and spread in spring.....In England, by the use of a steam-engine, one pound of coal will turn over nine tons of earth in the shape of furrows. On the Duke of Northumberland's property plowing is done by steam, at two dollars per acre; the land is then cultivated 30 inches deep, the first time for one dollar, and the second time for fifty cents per acre. It is then harrowed, with harrows with 12-inch teeth, for thirty cents per acre. This had been done for three years satisfactorily, on fields of twenty, thirty, and forty acres..... Hereford cattle are gaining in favor in England. During ten years the number exhibited at the principal agricultural fair had increased from 211 to 574 head..... Four hundred plows have been distributed amongst the farmers of Michigan rendered destitute by the great fires of last year.....The colony at Longmont, Colorado, has planted fifteen thousand larch-trees, which are succeeding very well.....Bone-dust is being adulterated with raspings of vegetable-ivory and ground dried flesh. These ingredients may be detected by calcining the bone, when a loss will occur in burning over and above the 45 per cent of organic matter naturally contained in the bones. .....Forty barrels of pop-corn have been shipped from Illinois to England. The English people have found a novel amusement in popping it.....In Ohio farmers are averse to pasturing meadows at any time.....Charles B. Leonard, of Woodbury, N. J., has twelve cows which last year averaged 283 pounds of butter each. They were fed corn-meal and bran all the year round.....William Knight bought sixteen calves, which were fatted by six cows, and realized $401.88 for the veal. He fed his cows one quart of corn-meal and two of bran, each, per day. The calves averaged 250 pounds each.....Cooper Cloud made his cows bring him in $55 each, by fattening purchased calves.....A New Jersey farmer sold milk at five cents a quart, and made $125 per cow in the year. He found it a slavish business.....W. Tatum fed his steers twelve quarts of corn and cob-meal each day, and thought it better than pure corn-meal.....At the Chenango County (N. Y.) fair, H. Crain received a premium of $25 for the greatest produce of butter in one week, from one cow. The cow was a grade Shorthorn, and 15¼ pounds of butter were churned in the week. The second premium of $10 was taken by W. L. Moon, who made 14 pounds in the week from a pure Jersey cow. Both cows were on pasture only.....In Washington Territory there were raised last year, and exhibited in New York, a turnip weighing 34 pounds, which measured nearly four feet in circumference, a ruta-baga which weighed 30 pounds, and carrots 18 inches long.....The Sacramento Beet-Sugar Company last season raised 2,000 tons of beets, which they are now profitably working up, at the rate of 30 tons per day. Some of their beets are said to contain 18 per cent of sugar.....Draft-horses in France and Belgium are becoming scarce, and the probability is that few will be exported for some years.....The Ohio Dairymen's Association elected the following officers for the ensuing year, viz.: *President*, D. L. Pope, of Geauga County; *Vice-President*, Lucius Bartlett, of Geauga Co.; *Secretary and Treasurer*, Col. S. D. Harris, of Cleveland; *Cor. Secretary*, Anson Bartlett, of Madison County..... The Ohio State fairs for 1872 and 1873 will be held at Mansfield, Richland Co. The next fair will commence Sept. 2d, and continue one week.....On the 18th June, the Ohio State Board of Agriculture held a trial of plows and earth-working instruments at Springfield....California is becoming a wine-producing country of respectability; they now have vats sufficiently large to give balls in, and find room not only for the dancers, but the musicians, and seats for spectators in them.....The products of California now include large quantities of castor-oil and mustard; 700,000 pounds of castor-beans and 13,000 bushels of mustard-seed were produced last year, besides $40,000 worth of wild-mustard seed was gathered in one county alone.

Tobacco is said to be injured in quality by strong animal manures....In some parts of Germany and Eastern France, 2,500 pounds of guano per acre is used as a fertilizer for tobacco.....Another Chester Co., Pa., swindler has been detected in receiving money for stock, and keeping it without forwarding the stock; in all cases when parties are unknown, it is safest to inquire of the postmaster, or to deal only with known responsible parties, although their prices may be higher than those of swindlers.....Mr. R. R. Seymour, Bainbridge, Ohio, has purchased a half-interest in the young Shorthorn bull, 3d Duke of Oneida. This bull will divide his time between Ross and Licking Counties for the future, and will, without doubt, leave his mark.....An Ohio farmer keeps his hogs healthy by furnishing them, in a covered trough, with a continuous supply of soft stone coal, salt, and ashes; this assists their digestion.....A New York farmer saved a calf which was choking with a potato in its throat, by bending a fence wire, putting it down the calf's throat, and working it behind the potato, which he was thus enabled to draw out.....A farmer of Kane Co., Ill., lately sold 14,000 pounds of wool, which was the clip of five years past, at 65 cents a pound, amounting to $9,170. He made money by holding on to his wool. He keeps 800 sheep.....A farmer of Linn Co., Mo., with the help of his two young sons, raised last season over 10,000 pounds of tobacco, which brought him over $800 net profit.

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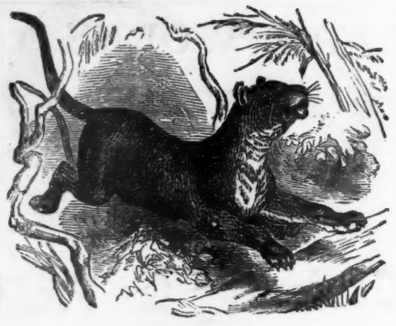

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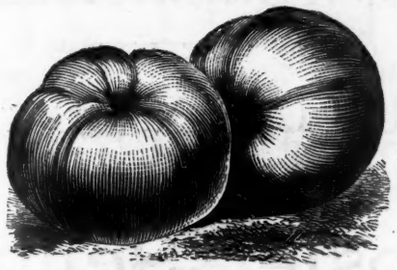

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"Here Mrs. Means stopped to rake a live coal out of the fire with her skinny finger, and then to carry it in her skinny palm to the bowl—or to the *hole*—of her cob-pipe. When she got the smoke agoing she proceeded:

"'You see this ere bottom land was all Congress land in them there days, and it sold for a dollar and a quarter, and I says to my ole man, "Jack," says I, "Jack, do you git a plenty while you're a-gittin'," says I, "fer 'twon't never be no cheaper'n 'tis now," and it ha'n't been, I knowed 'twouldn't,' and Mrs. Means took the pipe from her mouth to indulge in a good chuckle at the thought of her financial shrewdness. '"Git a plenty while you're a gittin'," says I. I could see, you know, they was a powerful sight of money in Congress land. That's what made me say, "Git a plenty while you're a gittin'." And Jack, he's wuth lots and gobs of money, all made out of Congress land. Jack didn't git rich by hard work. Bless you, no! Not him. That a'n't his way. Hard work a'n't, you know. 'Twas that air six hundred dollars he got along of me, all salted down into Flat Crick bottoms at a dollar and a quarter a acre, and 'twas my sayin' "Git a plenty while you're a gittin'" as done it.' And here the old ogre laughed, or grinned horribly, at Ralph, showing her few straggling, discolored teeth." —*From "The Hoosier School-Master."*

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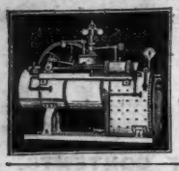

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